OECD Economics Department Working Papers No. 244

The Tax System in Norway: Past Reforms and Future Challenges

Paul van den Noord

https://dx.doi.org/10.1787/630052088314

OECD

Unclassified **ECO/WKP(2000)17**

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

OLIS : 24-May-2000
Dist. : 31-May-2000

English text only

ECONOMICS DEPARTMENT

ECO/WKP(2000)17
Unclassified

THE TAX SYSTEM IN NORWAY: PAST REFORMS AND FUTURE CHALLENGES

ECONOMICS DEPARTMENT WORKING PAPERS NO. 244

by
Paul van den Noord

Most Economics Department Working Papers beginning with No. 144 are now available through OECD's Internet Web site at http://www.oecd.org/eco/eco.

91606

Document complet disponible sur OLIS dans son format d'origine
Complete document available on OLIS in its original format

English text only

ABSTRACT/RÉSUMÉ

This paper reviews tax policy initiatives and the scope for further reform in Norway. Norway faces the challenge of containing expenditure to at least avoid future increases in the tax burden, which is already above the OECD average. The favourable tax regimes for some industries imply that the fully taxed sectors carry a comparatively higher burden, distorting resource allocation. Norway has made considerable progress in easing the distortions that are typically associated with a high tax burden. The introduction in 1992 of a dual income tax system, taxing all capital income at a low flat rate and labour incoming at higher and progressive rates, has been the centrepiece of the reform process. However, the wide difference in marginal tax rate between imputed labour and capital income of self-employed and small business owners has prompted extensive tax planning by these groups. Moreover, the differences in the valuation of assets for the wealth and property tax leads to distortions in investment and saving behaviour. Other incentive problems relate to the way local governments are financed and the exclusion of certain service activities from indirect taxation.

JEL code: H2, H7.
Keywords: Tax system, Norway.

*****

Le présent rapport dresse un bilan des initiatives qui ont été prises et un inventaire des nouvelles réformes qui pourraient être mises en œuvre dans le domaine de la politique fiscale en Norvège. La Norvège se trouve aujourd'hui confrontée à la nécessité de contenir ses dépenses publiques ne serait-ce que pour éviter d'avoir à augmenter à l'avenir la pression fiscale, qui est déjà supérieure à la moyenne de l'OCDE. En raison du régime fiscal favorable dont bénéficient certaines branches d'activité, les autres branches supportent une charge relativement plus lourde, ce qui fausse l'affectation des ressources. La Norvège a beaucoup avancé dans la réduction des distorsions qui sont généralement associées à une pression fiscale élevée. La mise en place en 1992 d'un système dual d'imposition des revenus des personnes physiques, assujettissant tous les revenus du capital à un faible taux uniforme et les revenus du travail à un taux plus élevé et progressif, a représenté la pièce maîtresse du processus de réforme. Cependant, la grande différence de taux marginaux d'imposition entre le revenu imputé du travail et celui du capital, dans le cas des travailleurs indépendants et des propriétaires de petites entreprises, a fortement incité ces derniers à recourir à l'optimisation fiscale. En outre, les différences existant dans l'évaluation des actifs aux fins de l'impôt sur la richesse et de l'impôt immobilier entraînent des distorsions dans les décisions d'investissement et d'épargne. D'autres problèmes sont liés aux modalités de financement des collectivités locales et à l'exclusion de certaines activités de services de l'assiette des impôts indirects.

Classification JEL : H2, H7.
Mots-clés : Fiscalité, Norvège.

Table of Contents

Page

I. Forces shaping the system 4

II. Key features of the system 6

III. Weaknesses of the system and options for reform 24

Annex 32

References 41

THE TAX SYSTEM IN NORWAY: PAST REFORMS AND FUTURE CHALLENGES

Paul van den Noord[1]

I. Forces shaping the system

1. The Norwegian tax system is similar to that observed in the other Nordic countries, owing to a stronger emphasis on income redistribution, a wider social safety net and a broader provision of social services as compared to most other OECD countries. Not surprisingly, reflecting the universal public provision of health care and education services, and high income transfers through the budget, government spending as a share of GDP, and hence the tax burden, is among the highest in the OECD area (Figure 1).

2. The Norwegian economy is, moreover, characterised by the availability of huge natural resources (oil, gas, hydropower, forestry and fisheries) that in various ways impinge on the tax system.[2] Different tax regimes for corporate income co-exist for mainland industries, shipping[3] and operators on the Norwegian continental shelf. In particular, the "petroleum tax" regime, together with the extraction facilities of the State Direct Financial Interest (SDFI) and the state-owned company Statoil, allow the government to capture the bulk of the oil and gas rent while permitting enterprises to exploit these resources in a profitable and efficient manner. Importantly, the revenues raised in this way have also served to fund the expansion of the welfare state, either directly by sustaining strong growth in public sector employment and social security, or indirectly, by avoiding public debt accumulation and the associated large interest payment obligations most other OECD nations are facing. The shipping tax regime, in contrast, provides an implicit subsidy to the merchant fleet so as to better face the strong international competition prevailing in that industry.

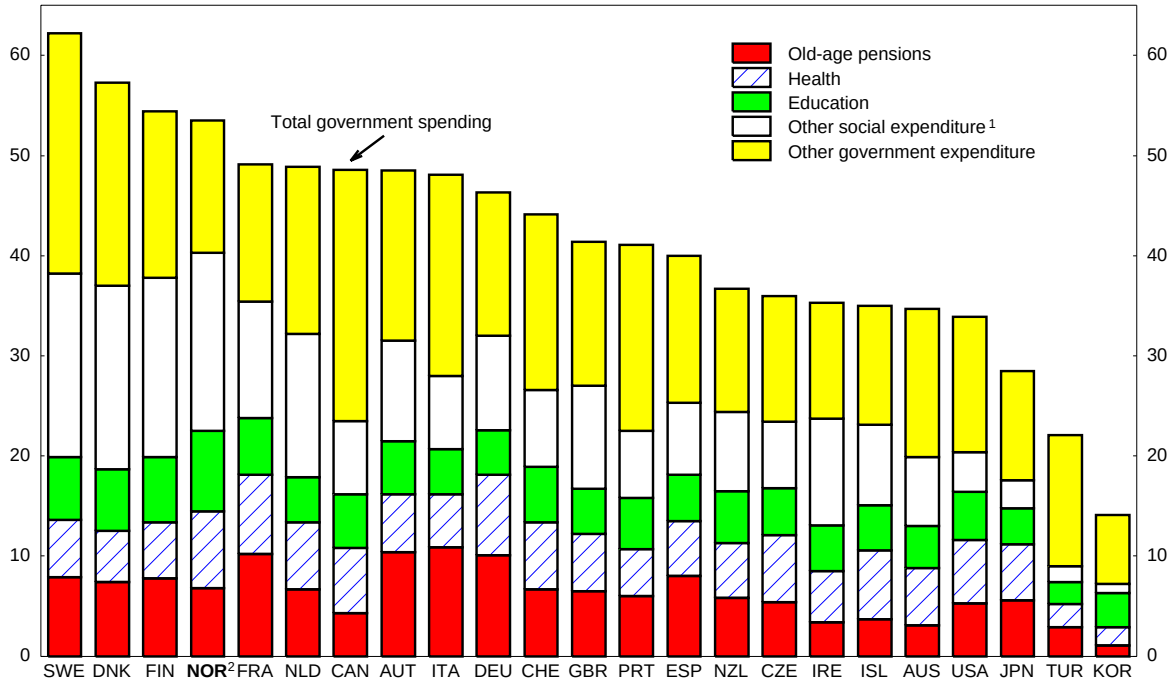
---

1. The author is head of the tax reform team in the Economics Department. This paper was originally produced for the *OECD Economic Survey* of Norway, which was published in February 2000 under the authority of the Economic and Development Review Committee. The author is indebted to the Royal Norwegian Ministry of Finance for considerable assistance with the preparation of this paper. Special thanks also go to Andrew Dean, Jørgen Elmeskov, Mike Feiner, Peter Hoeller, Flip de Kam, Wim Suyker and other colleagues in the OECD Secretariat for their comments and drafting suggestions. The author would also like to thank Anne Eggimann, Desney Erb, Valérie Luccioni-Lassaut and Chantal Nicq for technical support and assistance.

2. Norway is the world's second largest oil exporter, after Saudi Arabia, and also a major gas provider to western Europe. In addition, Norway is the second largest seafood exporter in the world, and an important producer and exporter of hydropower.

3. The Norwegian merchant fleet is the second largest in the OECD area, after Greece, and the seventh largest in the world.

Figure 1. Government spending
As a per cent of GDP, 1995



1. Social transfers and services such as unemployment and housing benefits, family services, etc.
2. As a per cent of mainland GDP.
Source: OECD Social expenditure database and OECD (1999), Education at a Glance.

3. A key to the design of the Norwegian tax system is also the overriding objective to keep remote areas populated, notwithstanding a very low population density overall.[4] To preserve settlement patterns the government aims to keep employment in remote areas and the provision of public services up to the high national standards. This requires a substantial re-allocation of public funds across regions, including huge horizontal transfers of local tax revenues and various forms of differentiated tax treatment, such as regionally-differentiated rates for employers' social security contributions.[5] Moreover, the government deliberately does not capture much of the resource rent from fishery and forestry, in order to promote economic activity in remote areas where these industries are based.

4. The above features of the Norwegian economy have been conducive to calls for preferential tax treatment of specific sectors or regions, resulting in a tax system that by the late 1980s was blurred by a plethora of special exemptions and allowances. Spurred by developments in other OECD countries, Norway's tax system went through a sweeping base-broadening and rate-cutting reform in the early 1990s. From this reform emerged a fairly lean and rational tax system, even if it still contains some warts in areas

4. With 13 inhabitants per square kilometre, Norway is one of the least populated countries in the OECD area (only Canada, Australia and Iceland have lower population densities).

5. In July 1998 the EFTA Surveillance Authority decided that the system of regionally-differentiated employers' contributions should be considered as state aid and that parts of it were incompatible with EEA regulations. The EFTA court confirmed this decision in May 1999. The Authority has approved the changes in the system the Parliament has subsequently adopted.

where specific regional interests prevail. The centrepiece of the reform was the move towards a pure *dual income tax* in 1992, which strictly separates the taxation of labour and capital income at the level of individual taxpayers. It ensures that capital income is consistently taxed at a low, flat rate, while income from labour is subject to a higher, progressive rate. At the same time, statutory tax rates on both capital and labour income were lowered, tax bases broadened and effective rates harmonised across sources of capital income in order to enhance tax neutrality. Norway is the only country in the OECD area that has adopted such a pure form of universal dual income taxation. A similar system was introduced in the late 1980s in Denmark and in the early 1990s in Sweden and Finland, and is currently being considered by the Netherlands, but these are less "pure" reform initiatives.[6] Reform efforts since 1992 have focused on "greening" the tax system, by introducing or raising product-specific indirect taxes to improve the environmental impact of economic behaviour, the most prominent example being the CO_2 tax.[7] This has led to an increasing share of green taxes in total tax revenues over the 1990s, which is currently among the highest in the OECD area.

5. Looking ahead, the Norwegian tax system will, as elsewhere in the OECD, be susceptible to erosion of revenue bases due to the increasing international mobility of financial capital and growing electronic commerce. This development is even more challenging for Norway, since it faces downward pressure on taxes on specific products, such as alcoholic beverages and food, to EU levels in surrounding countries. Meanwhile, as highlighted in several *OECD Economic Surveys* of Norway, human capital investment in Norway needs to better match skills in the face of a tight labour market. The tax system could play a role in this regard, by re-balancing the trade-off between a fair income distribution and ensuring sufficient pecuniary rewards for human capital investment. In the longer run, like most OECD countries, Norway will be confronted with rising pressure on welfare spending as the population is ageing, while public revenues from oil and gas activities are expected to peak soon after the turn of the century. This may require adjustment to both the level and mix of taxation, as well as the removal of tax privileges for retirees.

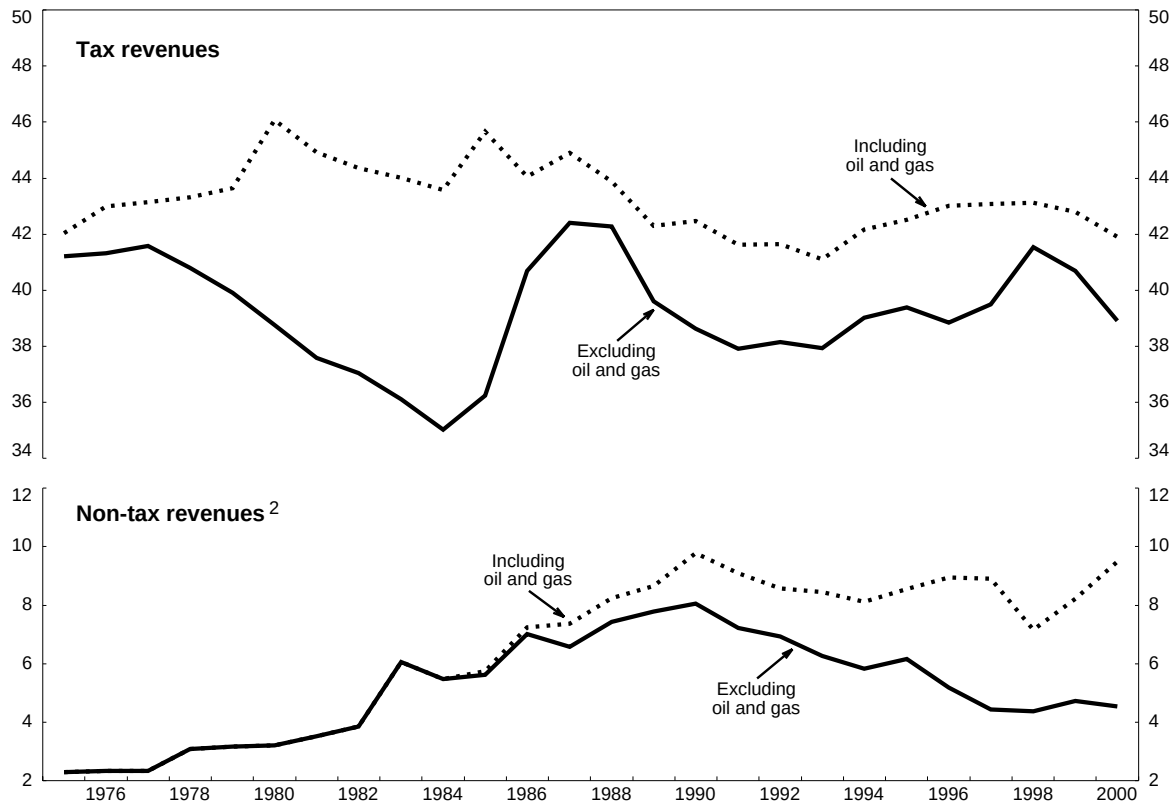
II. Key features of the system

6. Norway taxes mainland activities heavily, despite the substantial budgetary contribution of oil and gas revenues. The latter comprise both tax and non-tax revenues, and have hovered around 8 per cent of GDP over the 1990s (Figure 2). Nevertheless, the share of tax revenues levied on mainland activities amounted to 48 per cent of mainland GDP in 1999, which represents a heavier tax burden than in most other OECD countries. While major distortions are typically associated with such a high tax burden, even more damaging for economic efficiency is the combination of high marginal rates of taxation and narrow tax bases, and differential tax treatment of similar tax bases due to specific characteristics of the taxpayer. In this area Norway has made considerable progress since the early 1990s, although there has been some backsliding recently. Against this backdrop, the sections below examine the key features of the tax system in more detail (for a technical description of the system also see Annex).

6. Cnossen (1997), Sørensen (1998) and the 2000 *OECD Economic Survey* of the Netherlands.

7. Two policy documents prepared the ground for this reform: "Towards more cost-effective environmental policies in the 1990s: Principles and Proposals for Better Pricing of the Environment" by the Environmental Tax Commission in 1992 and "Policies for a Better Environment and high Employment" by the Green Tax Commission in 1996; see Ministry of Finance (1992) and Green Tax Commission (1996). The 1999 OECD *Economic Survey* of Norway contained an extensive discussion of environmental policies.

Figure 2. General government funding
As a per cent of GDP[1]

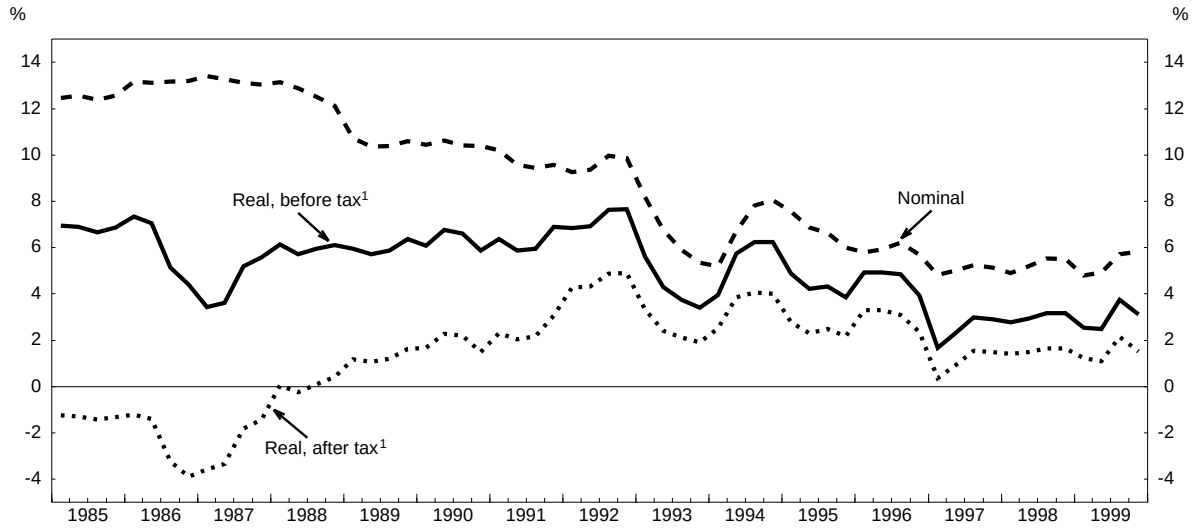


1. Data for 1999 are preliminary and for 2000 projected.
2. Transfers, profits, dividends and interest received.
Source: Statistics Norway and OECD Secretariat.

The legacy of the 1992 reform

7. The 1992 reform of income taxation was motivated by major tax distortions that were exposed by the liberalisation of financial markets in the early 1980s. In particular, the rapid development of credit markets provided an opportunity for households to take advantage of generous debt-interest tax deductibility, as reflected in negative after tax real interest rates (Figure 3). This induced a debt-financed consumption spree and a housing bubble, which unwound in 1987. With hindsight, the sequencing of reform — financial liberalisation preceding tax reform — was unfortunate. Official committees appointed in the late-1970s and early 1980s foresaw this risk, but it was only when the economy nose-dived that action was taken.

Figure 3. Real interest rates before and after tax
Government bonds with five-year maturity



1. Deflated by the rate of change of the consumer price index; assuming deduction against the relevant top marginal rate of taxation.
Source: Ministry of Finance.

8. From 1987 onwards the foundation for the tax reform was laid. The tax base of individuals was broadened, the top marginal tax rate against which tax deductions were allowed was gradually reduced and an income-surtax against which no interest deductions were allowed was introduced in 1988. In the same year the government appointed the *Aarbakke Committee*, whose proposal for a broader tax base, lower tax rates and a pure dual income tax system was submitted to Parliament in 1990, where it met little opposition.[8] Since the 1992 tax reform, the thrust of the system has remained broadly unchanged. However, there has been "erosion" due to demands for preferential tax treatment by interest groups, such as the special regime for shipping that was introduced in 1996.

Personal income tax: a "dual" approach

9. The dual income tax system taxes all forms of capital income at a rate of 28 per cent while labour income is taxed at a higher progressive rate. When the system was implemented in 1992, the top marginal rate of labour income was set at around 50 per cent, but has been raised by 6 percentage points with the introduction of an additional income tax bracket in 2000 (see Box 1). Importantly, work-related and interest expenditure are deductible against the capital income tax rate of 28 per cent only. The dual principle also applies to self-employed and active shareholders in limited companies, for which a "split model" has been designed to separate the labour and capital income components.

8. The reduction of statutory tax rates was welcomed on the presumption that loopholes and deductions would be eliminated and the redistributive goals of the system better served. The cut in statutory rates was seen to strengthen the international competitiveness of Norwegian industry and stem capital outflows.

Table 1. **Statutory tax rates by government level and income source**[1]

As a per cent of relevant taxable base

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Corporate income										
Central	29.80	17.00 →		18.50	19.75	20.75	21.25	28.00 →		
Local	21.00	11.00 →		9.50	8.25	7.25	6.75	0.00 →		
Municipalities	13.50	7.00 →		5.50 →		4.75	4.25	0.00 →		
Counties	7.50	4.00 →			2.75	2.50 →		0.00 →		
Total	50.80	28.00 →								
Ordinary income[2]										
Central	5.50	7.00 →		7.75	8.75	9.25	9.75	11.00	9.90	10.35
Local	21.00	21.00 →		20.25	19.25	18.75	18.25	17.00	18.10	17.65
Municipalities	13.50	13.50 →		13.00	12.25	11.75	11.50	10.75	11.50	11.20
Counties	7.50	7.50 →		7.25	7.00 →		6.75	6.25	6.60	6.45
Total	26.50	28.00 →								
Personal income[3]										
National income tax										
1st bracket	7.00	abolished		..	..	..	..	..	..	..
2nd bracket	14.00	abolished		..	..	..	..	..	..	..
National surtax										
1st bracket	9.50	9.50 →						→	0.00 →	
2nd bracket[4]	9.50	13.00	13.70 →					→	13.50 →	
3rd bracket[5]	..	..	..	..	..	..	..	..	..	19.50
National insurance scheme										
Wage earners	7.80	7.80 →								
Self-employed	12.70	10.70 →								
Pensioners	1.60	3.00 →								
Memorandum item:										
Top marginal rate on labour income[6]	57.80	48.80	49.50 →					→	49.30	55.30

1. An arrow indicates that there has been no change in the rate over the period covered.
2. Net of allowances. Ordinary income is personal income net of work-related deductions.
3. Gross income from employment, self-employment and pensions.
4. Applies to earnings above NOK 277 800 (class 1) or NOK 329 000 (class 2) as of 1 January 2000.
5. As of 1 January 2000; applies to earnings above NOK 762 700.
6. Tax rate on ordinary income plus top rate on personal income, including National insurance scheme contributions.

Source: Ministry of Finance.

Box 1. **The dual income tax**

Norway adopted considerable changes in its personal income tax system in 1992 (Table 1). Prior to the reform labour and capital income of individuals were both taxed according to a progressive rate structure, with a top marginal rate for labour income of 57.8 per cent (62.7 per cent for self-employed), whereas corporate income was taxed at a flat rate of over 50 per cent. Since 1992, labour income is taxed according to a progressive rate structure whereas capital income of individuals and corporations is taxed at a uniform flat rate. To achieve this, all income of individuals is first taxed jointly at the corporate income tax rate of 28 per cent. The taxable income computed for this purpose is the ordinary income, which is personal income (including realised capital gains and imputed rent income from owner-occupied housing) net of deductions. There are deductions for interest expenses, a standard personal allowance (NOK 26 300 in 1999 for a single earner),[1] a standard deduction of 21 per cent for wage and pension income up to a ceiling of NOK 34 900 in 1999 and standard family allowances. In addition, as of January 2000 employees may opt for a special allowance of NOK 30 600 if that were more favourable to them than the standard deduction (which in 2000 was raised from 21 to 22 per cent with a ceiling of NOK 36 600). Next, personal income, which is not eligible to deductions and comprises labour, self-employed labour or pension income, is subject to a surtax at a rate of 13.5 per cent above a certain threshold (NOK 269 100 in 1999 for a single earner). In addition there is a social security contribution on labour, self-employed labour and pension income of 7.8, 10.7 and 3 per cent, respectively.[2] Accordingly, the top marginal rate amounts to 49.3 per cent for a salaried worker, 52.2 per cent for a self-employed worker and 44.5 per cent for a pensioner. In 2000 a new bracket in the surtax, applied to personal (labour and pension) income of NOK 762 700 and above, has been introduced. The rate is 19.5 per cent, which raises the top marginal rate for personal income by 6 (= 19.5 - 13.5) percentage points.

In order to apply the dual principle to individuals that combine income from labour and capital stemming from a single source (self-employed, shareholders that are actively involved in the day-to-day business of their company), a so-called "split model" has been developed. This divides the assessed income from business activity into ordinary income (total business income less deductions for *e.g.* depreciation and interest payments) and imputed personal income. Ordinary income is taxed at 28 per cent, while imputed personal income is liable to social security contributions and the surtax according to the rate schedule for self-employed individuals. Personal income is computed by subtracting an imputed capital income, augmented by a fraction of salaries paid to employees,[3] from total business income. The imputed capital income is calculated by multiplying the capital stock with an assumed rate of return on capital — which is fixed annually by the Parliament on the basis of the average government bond rate (5 per cent in 1999 and 2000), plus a risk premium (6 per cent in 1999 and 5 per cent in 2000).

For most practical purposes active shareholders and self-employed individuals are treated in the same way within the split model. However, since 1995, shareholders who work less than 300 hours annually in their business are not considered to be active owners and hence all their income is treated as capital income — except for liberal professions for whom the 300 hours rule was again abolished in 1998. On the other hand, active shareholders may escape the personal income surtax if they own less than two-thirds of the shares or have the right to less than two-thirds of the dividends. Since most of such "closely held" firms are in fact family-owned, the main owner could escape the personal income surtax on business income by selling shares to family members. To avoid this loophole "identification" rules were established to define which persons may, or may not, be regarded as passive. In particular, an active owner who sold his shares to his spouse did not escape the tax on personal income, as the spouse would have to pay the tax instead. The identification rules were eased in 1997, however, with shares in the hands of the active owner's parents, spouse or partner and children older than 18 years no longer taken into consideration. This measure has again been reversed in 2000 for liberal professions, with, moreover, shares in the hands of the active owner's siblings and relatives of his spouse or partner also taken into account.

---

1. Couples can choose between individual or joint assessment, whichever is favourable.
2. Companies also pay an employers' social security contribution on wages and most fringe benefits, from which self-employed workers and pensioners are exempt.
3. Initially this fraction was fixed at 12 per cent, but it was raised to 20 per cent in 1995. The purpose of this allowance is to capture capital income stemming from goodwill not quantified in the balance sheet.

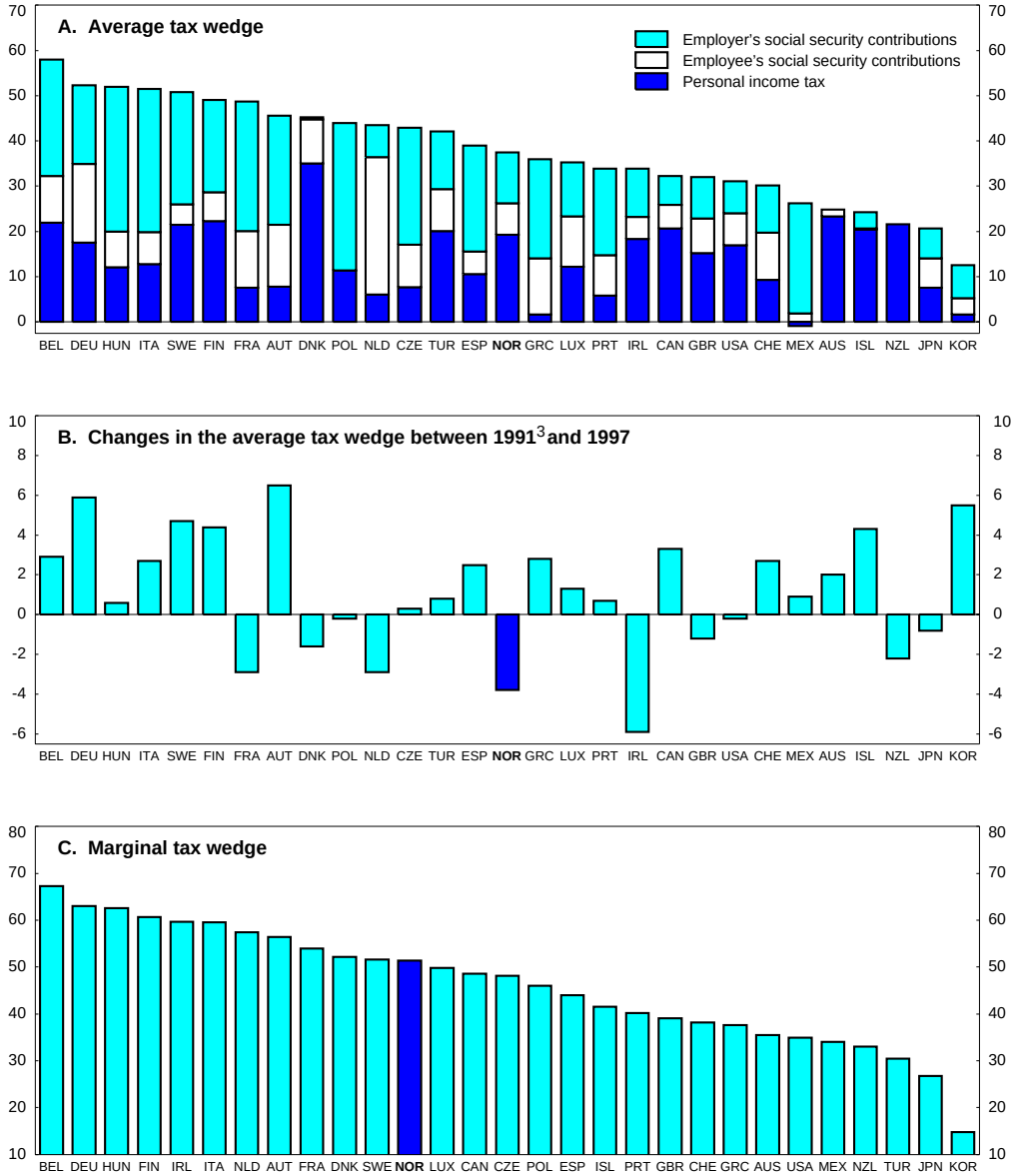
Box 1. **The dual income tax** (continued)

The split model contains income thresholds above which personal income is taxed as capital income. These thresholds have been changed several times. Initially the split model contained a ceiling of 34 times the so-called "basic amount" for social insurance purposes (usually denoted as "G"; the annual average was equal to NOK 46 423 in 1999) which is equivalent to roughly 6 times the average production worker's (APW) wage. This left all personal income above that ceiling taxed at a rate of 28 per cent. The authorities have come to realise that the split model is more accurate for liberal professions than for other occupations. The capital base used to calculate imputed capital income is much larger for other occupations than for liberal professions, hence assessment errors have much larger repercussions for the imputed labour income of the former category. Therefore in 1995 separate ceilings for liberal professions and other occupations were introduced — amounting to 75 times G for liberal professions and to 23 times G for other occupations. At the same time, a second ceiling for other occupations was introduced, with income in the range of 75 to 127 times G taxed as personal income. In 1998 the ceiling for liberal professions was entirely abolished while for other occupations the 23 G ceiling was lowered to 16 G and the 75 to 127 G interval was widened to 134 G.

10. The separate taxation of capital and labour income of individuals may be justified in various ways. First, it facilitates the acceptance of relatively low, uniform taxation of capital income — although due to the taxation of net wealth, the effective rate of taxation of capital is somewhat higher than the low statutory corporate income tax rate suggests. Efficiency considerations strongly favour lower taxation of (mobile) capital rather than of labour in order to minimise tax distortions and to shield the tax system from erosion associated with international mobility of tax bases. Second, the relatively low taxation of personal capital income stimulates personal saving. In particular, with the 1992 reform the average marginal tax rate on net interest income has declined by approximately 5 percentage points. The dual income tax therefore turned out to be a pragmatic way of reducing the generosity of the tax treatment of debt-funded owner-occupied housing (although the bias towards this form of wealth formation was not entirely removed; see below). Third, by facilitating the symmetric treatment of capital income across sources, the dual income tax removes arbitrage gains from accumulating returns in a low-taxed corporation while deducting interest payments against a high personal tax rate.

11. Looking at the taxation of labour, it is striking that the average tax wedge declined substantially with the tax reform and, at around 35 per cent of average labour cost, is below the levels prevailing in continental Europe (Figure 4, panels A and B). Moreover, the marginal tax wedge, which is an important indicator for work incentives, is also somewhat lower than in most continental European countries (Figure 4, panel C). This relatively favourable picture in part reflects the comparative bias toward indirect taxes (see below), which are not included in the reported tax wedges. Interestingly, part-time workers without secondary earnings from a partner face a much smaller marginal effective tax rate in Norway than in most other OECD countries, owing to the combination of a low personal tax allowance and a relatively flat rate structure (Table 2). This may help explain why part-time and temporary work, which represent an important source of "flexible" labour supply, increased substantially in the recent upswing. Unfortunately, a change in the personal income tax system in 2000, whereby workers below a certain income threshold may opt for a higher standard personal allowance with a more progressive rate structure, will partly undo this favourable property (see Box 1).

Figure 4. Tax wedge on labour [1]
As a per cent of gross labour costs,[2] 1997



1. Single individual at the income level of the average production worker.
2. Gross wage plus employers' contributions.
3. 1993 for the Czech Republic and Poland, 1994 for France, 1995 for Hungary and Korea.

Source: OECD (1999), The Tax/Benefit Position of Employees, 1997.

Table 2. **Marginal effective tax rates on additional income for different family types**[1]
1997

Principal earner	Part-time employed	Full-time employed			Unemployed	
Secondary earner	Non-employed	Full-time employed	Part-time employed	Non-employed	Full-time employed	Part-time employed without benefit entitlements
Poland	58	19	17	48	19	17
Australia	60	29	15	78	78	60
France	69	28	38	76	29	30
Norway	**77**	**47**	**43**	**77**	**42**	**35**
Spain	77	23	19	78	23	19
Sweden	79	37	42	88	43	42
Ireland	83	32	25	68	20	38
Denmark	84	50	48	84	55	61
Italy	84	33	25	63	37	19
Netherlands	90	39	37	89	45	52
United Kingdom	93	28	20	72	60	55
Switzerland	96	30	27	85	20	15
United States	102	19	11	68	20	0
Greece	104	30	30	54	66	118
Canada	105	37	33	75	34	29
Hungary	106	29	12	73	34	23
Belgium	109	57	61	68	43	25
Germany	115	51	50	80	31	19
Finland	117	36	23	88	48	23
Korea	129	13	9	55	2	1
Japan	133	12	10	60	10	7
Austria	135	30	21	76	32	43
Iceland	139	44	56	63	27	49
Czech Republic	162	19	2	85	22	15
Portugal	174	21	13	79	14	11
Luxembourg	198	30	14	87	26	12

1. Marginal effective tax rate = 1 - (net income in work - net income out of work) / change in gross income. Countries are ranked according the rate for a part-time employed principal earner with a non-employed secondary earner. Part-time employment corresponds to 16 hours or two days each week, and total earnings are 40 per cent of the average production worker level of earnings. Earnings from full-time employment correspond to average production worker earnings.

Source: OECD (1999), *Benefit Systems and Work Incentives* .

The taxation of firms: focus on neutrality

12. From the 1992 reform a tax system emerged that is neutral with regard to sources of capital income (distributed and non-distributed corporate profits, other business income, interest income and capital gains).[9] A key element of the reform was the introduction of one single statutory tax rate for all capital income, of 28 per cent, against which interest expenditure and depreciation allowances can be deducted. At the same time, tax depreciation rates were lowered and the practice whereby corporations could defer taxes indefinitely by allocating profits to a so-called consolidation fund — thereby reducing the statutory tax rate from 50.8 to 39.1 per cent — was abolished. Finally, double taxation of dividends and capital gains was removed.[10] In particular, the personal tax liability on dividends was reduced by a tax credit corresponding to the corporate tax rate, in line with the *imputation principle*. Since in the Norwegian case the tax rate on capital income of individuals is the same as the corporate tax rate, the Norwegian shareholder is entitled to a full tax credit on dividends received.[11] To avoid also double taxation of retained profits to the extent these are reflected in capital gains on shares, a so-called RISK method (or opening value adjustment method) was introduced.[12] This method assumes that retained profits are in fact deferred dividends that are reflected in the share values, hence the associated capital gains are already taxed at the company level. Therefore, only capital gains that exceed the increase in the stock of retained earnings of the company are taxed.[13] As a result, Norway not only went further than other countries in abolishing income allowances, tax deferrals and tax credits, it also went further in terms of cutting the statutory tax rate and double taxation of corporate income (Figure 5).[14] This has led to a reduction in tax planning and investment in tax-sheltered activities, which probably explains part of the increase, in cyclically-adjusted terms, in the corporate-tax take as a per cent of GDP since 1992.[15]

13. Since 1992, the Norwegian tax system incorporates essential features of neutrality across ways of doing business, sources of finance, etc. In particular, it avoids a number of pitfalls that were inherent to the pre-1992 system and that distorted saving and investment decisions. There were three main sources for distortions prior to the reform: *i)* the weak link between taxable and actual income due to deferred funds and accelerated depreciation allowances; *ii)* the generally low taxation of real capital gains, notably in the shipping and airline industries; and *iii)* the differential taxation across business sectors.[16] Hence, tax administration was cumbersome and tax planning highly lucrative. Moreover, the system tended to "lock in" retained profits due *inter alia* to the double-taxation of dividends. The current system taxes dividends

9. See Aarbu (1997) and Sollund (1991).

10. Already between 1986 and 1991 it became gradually more profitable to take income as dividends due to the stepwise decrease of the personal dividend tax. See also Aarbu (1997).

11. Prior to the reform the actual tax rate on dividends depended on individuals' effective marginal tax rate. After the reform foreign owners of Norwegian shares may still face double taxation of distributed profits.

12. RISK stands for *Regulering av Inngangsverdi med endring i Skattlagt Kapital*.

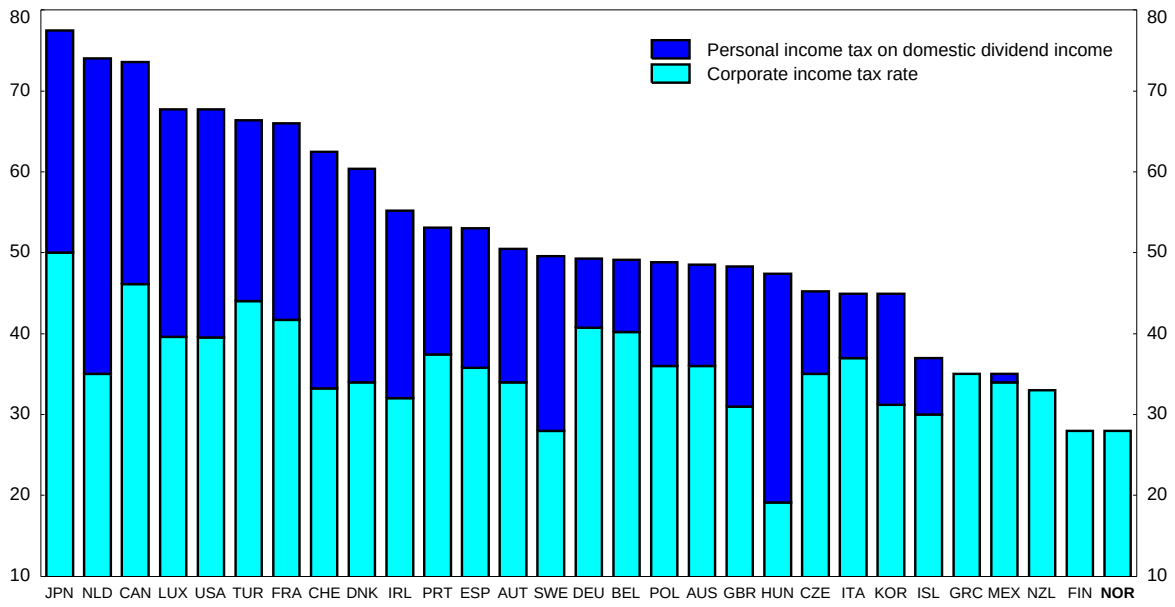
13. The corporate wealth tax was also abolished.

14. Prior to the reform corporate taxes were levied at a statutory rate of 50.8 per cent.

15. Until 1992 cyclically-adjusted corporate tax revenues hovered around 1½ per cent of potential GDP, but since then it has trended up to almost 3 per cent.

16. For example, prior to the reform an investment in a ship or airplane was profitable even with negative pre-tax returns due to very generous depreciation rates.

Figure 5. Combined corporate and personal income tax wedge on distributed profits
Resident top earner individuals, per cent, 1998



Source: OECD Tax Data Base.

and retained earnings equally and hence investment is more geared to equalise pre-tax returns across economic activities. The (almost) negligible variation in marginal effective tax rates (METRs) across sources of funding and types of investment that are implied by the current system illustrate this (Table 3). METRs gauge the *ex ante* tax wedge between the pre and after-tax rates of return on investment and savings for different hypothetical marginal investment projects. A tax system where different investment projects and savings instruments yield the same pre-tax return for a given after-tax return can be called *neutral*, which is indeed a key feature of the Norwegian system. A similar degree of neutrality is only found in Germany and New Zealand (see the first column of Table 3), which also employ a full imputation system and, moreover, do not tax capital gains on shares. Nevertheless, neutrality has not been achieved in all respects, in particular since owner-occupied housing and shipping activities continue to receive a favourable tax treatment.[17]

17. As in most OECD countries, another non-neutrality stems from the deferred taxation of occupational pension saving.

Table 3. **Marginal effective tax wedges on physical investment , R&D and human capital**[1]

	Manuafacturing, 1998							1996			
	Standard deviation	Sources of financing[2]			Physical assets[3]			R&D[4]		Human capital	
		Retained earnings	New equity	Debt	Machinery	Building	Inventories	Short lived	Long lived	Training[5]	Tertiary studies
New Zealand	0.3	1.8	1.8	1.8	1.7	1.5	2.3	0.7	0.3	0.0	..
Germany	0.3	1.4	0.9	1.3	1.1	1.7	1.3	0.0	0.0	-0.2	-0.4
Norway	**0.3**	**1.3**	**1.3**	**1.3**	**1.0**	**1.2**	**1.9**	**0.1**	**0.1**	**0.0**	**..**
Australia	0.4	2.6	2.5	2.5	2.1	2.7	3.4	-6.0	-0.9	0.9	-0.6
Spain	0.5	3.9	3.2	2.6	3.1	3.6	3.7	-7.1	-0.8	2.0	-0.1
Mexico	0.5	1.5	1.5	0.2	0.9	0.9	1.3	-0.3	-0.3	..	..
United Kingdom	0.6	2.2	2.8	1.8	1.7	2.1	3.1	0.8	0.8	0.8	..
Denmark	0.6	2.4	3.2	2.9	2.2	2.6	3.8	-1.7	0.6	1.6	..
Ireland	0.7	1.9	3.4	2.4	1.8	2.1	3.1	0.8	0.8	0.8	-0.8
Finland	0.8	2.5	1.0	1.0	1.4	1.9	2.9	0.7	0.7	0.7	-0.7
Sweden	0.8	2.4	3.4	1.0	1.7	2.1	2.5	1.1	1.1	1.0	-1.8
Greece	0.9	1.8	1.8	-0.1	0.9	0.5	2.4	-0.6	-0.6	-0.6	..
Italy	1.0	2.2	2.5	0.6	1.0	1.8	3.1	0.3	0.3	0.0	-0.1
Iceland	1.0	2.2	2.7	-0.1	1.0	1.6	2.3	1.3	1.3	1.0	..
Luxembourg	1.1	4.0	2.7	1.8	2.4	3.0	4.7	1.7	1.7	1.6	..
Switzerland	1.2	0.5	4.1	2.2	1.3	1.6	1.6	0.5	0.5	0.4	-0.3
Austria	1.3	0.9	3.2	0.1	0.0	1.1	2.6	-2.4	-0.8	-0.1	-0.8
Portugal	1.4	2.1	4.4	0.0	1.5	1.5	2.0	-0.2	-0.2	-0.3	-0.7
United States	1.5	2.0	5.7	1.7	1.7	3.0	2.6	-3.8	-0.2	1.0	0.0
Belgium	1.5	1.6	3.0	-0.7	0.1	0.8	3.1	-0.5	-0.5	-0.5	..
Canada	1.7	4.7	5.7	1.4	2.5	4.3	5.5	-4.0	-0.4	1.1	-0.7
Netherlands	2.0	0.6	6.3	2.9	1.8	2.3	2.0	-3.6	-0.1	1.0	-0.5
France	2.6	4.4	8.5	0.8	2.6	4.1	4.8	-1.1	0.1	0.5	0.0
Japan	2.7	4.5	7.4	-0.3	1.8	5.1	3.7	0.2	0.6	0.5	0.7
OECD[6]	1.1	2.3	3.5	1.2	1.6	2.2	2.9	-1.0	0.2	0.6	-0.5
EU[6]	1.1	2.3	3.4	1.2	1.6	2.1	3.0	-0.8	0.2	0.6	-0.6

1. These indicators show the degree to which the personal and corporate tax systems scale up (or down) the real pre-tax rate of return that must be earned on an investment, given that the household can earn a 5% real rate of return on a demand deposit. See OECD (1991), *Taxing Profits in a Global Economy: Domestic and International Issues,* for discussion of this methodology. Calculations are based on top marginal tax rates for the personal income tax and a 2% inflation rate.
2. The weighted average uses the following weights: machinery 50%, buildings 28%, inventories 22%.
3. The weighted average uses the following weights: retained earnings 55%, new equity 10%, debt 35%.
4. The weighted average uses the following weights: machinery 5%, buildings 5%, current expenditure across assets 90%, and weights in footnote 3 for financing.
5. The weighted average uses weights in footnote 3 for financing.
6. Simple average across available countries.

Source: OECD Secretariat.

Welfare gains from the reform

14. Statistics Norway estimates suggest that welfare increased by ¾ per cent due to the reform.[18] This should be considered as a minimum estimate, however, since it incorporates only the effects of the reallocation of labour and capital across various industries, thus ignoring possible dynamic effects on overall capital accumulation and labour supply.[19] The favourable performance of the Norwegian economy after the reform was adopted suggests that such dynamic effects may have been important. In particular, the reform has helped to bring about a return of the household saving ratio to levels that prevailed prior to the mid-1980s boom/bust cycle, owing to weaker incentives to borrow. As a result, the household savings ratio moved up rapidly, thus strengthening households' balance sheets and contributing to a shift from consumption to capital formation. Although this development is unlikely to be fully attributable to changes

18. Holmøy and Vennemo (1995). Welfare is derived from utility functions for 14 types of households distinguished by socio-economic status embedded in a computable general equilibrium (CGE) model.

19. Statistics Norway is presently working on an evaluation of the tax reform using an updated and extended version of the 1991 CGE-model. The present model incorporates saving behaviour and endogenous labour supply, and may thus be able to give a more coherent picture of the reform.

in the tax code, evidence from Sweden, which went through a similar tax reform to Norway, suggests that this might be the case to some extent.[20] Labour supply may have been stimulated by lower marginal effective tax rates, in particular for part-time labour (see above). Labour supply has indeed soared since 1992, although cyclical factors have probably been predominant.

15. There is little evidence that the tax reform would have contributed to a widening in the after tax income distribution — in fact it remained narrow by international comparison. In effective terms, the progressivity of the personal income tax system was little affected by the reform, as rate cuts at the upper-end of the pay scale were offset by smaller tax rebates (in particular for mortgage lending).[21] As a result, the "vertical" after-tax distribution of wage income was little changed by the reform.[22] On the other hand, the recorded overall vertical income distribution, including capital income received by households, has become more skewed (Table 4). However, this mainly reflects the economic upswing and lower interest rates since 1993, which boosted profits, dividends and realised capital gains, the bulk of which typically flows to high-income groups. Moreover, to the extent that the reform prompted previously unreported earnings to surface and retained profits to be converted into distributed profits, the recorded widening in the income distribution is merely a statistical artefact.

Table 4. **After-tax income distribution**

Per cent

Decile	1986	1990	1992	1996
1	4.1	4.0	3.8	3.7
2	6.1	6.0	5.9	5.6
3	7.2	7.2	7.0	6.9
4	8.2	8.2	8.1	7.9
5	9.1	9.1	9.0	8.8
6	9.9	9.9	9.9	9.7
7	10.9	10.9	10.9	10.6
8	12.1	12.0	12.1	11.7
9	13.8	13.7	13.8	13.4
10	18.6	19.0	19.6	21.7
Gini coefficient	0.222	0.228	0.237	0.257

Source: Ministry of Finance.

16. One of the aims of the tax reform of 1992 was to ease the administrative burden for the taxpayers and tax authorities. According to the authorities the tax reform represented, on balance, a move in the right direction. The previous income tax system required a very complex and detailed assessment due to many special provisions and exceptions, most of which have been removed by the reform. One of the most onerous elements of the previous system, the tax assessment of partnerships with joint liability or unlimited

20. The experience in Sweden has been that reductions in the top marginal tax rate reduce the returns on favourably taxed assets such as housing relative to the opportunity cost of placing money into saving accounts or the cost of debt finance (Agell *et al.*, 1999).

21. Aarbu and Thoresen (1998).

22. The inequality measured by the Gini-coefficient increased by 3.3 per cent from 1992 to 1993. This is however not statistically significant, see Aarbu and Thoresen (1995).

pro rata liability, has been considerably simplified. However, some tax rules introduced by the reform lead to more complexity, in particular the split model and the RISK method for adjusting capital gains on shares.

Differential tax treatment of specific sectors or regions

Taxing natural resource rents

17. The Norwegian government faces the challenge of ensuring that it captures the important natural resource rents in a non-distorting way. A natural resource levy corresponding to the resource rent is, in principle, not distorting. Indeed, it merely transfers pure economic rent from the natural resource sector to the government while leaving the allocation of labour and capital resources unaffected.

18. The management of the oil and gas reserves, which represents by far the most significant natural resource in Norway, involves fairly extensive public decision-making, including the allocation of oil and gas acreage.[23] In addition, a special "petroleum" tax regime has been designed so as to ensure that the bulk of the natural resource rent is captured by the government without compromising, in principle, the production area's efficiency and competitiveness. The present tax regime includes the standard 28 per cent corporate tax net of depreciation allowance and a special surtax of 50 per cent on those profits minus a special allowance (uplift).[24] Through these taxes, the operating surpluses from its own production facilities on the continental shelf (SDFI) and the state-owned company Statoil,[25] the government extracts around 80 per cent of the natural resource rent. The effective tax burden on the continental shelf is not out of line with that observed in other gas and oil production areas in the world that apply similar tax systems,[26] but it is high compared to the mainland. On the other hand, the special depreciation allowances (16 $^{2}/_{3}$ per cent per year), the "uplift" and the deductibility of interest payments against the standard corporate and the surtax create incentives for investments in less profitable fields. As a result, the degree to which the current tax system captures the whole rent has been subject to some debate, and a majority in the Green Tax Commission (1996) recommended a reassessment of the tax rules on the continental shelf.[27] A government commission appointed to this end is expected to present its recommendations by June 2000.

19. Among the other main natural resources in Norway, only hydropower is subject to a rent tax. Following recommendations by the *Rødseth Committee* in 1992, a rent tax on hydro power stations at a rate of 30 per cent was implemented in 1997.[28] The rent is calculated as net income less the "normal" return and taxed at a rate of 27 per cent. The "normal" return is equal to a market rate of interest multiplied by the value of invested capital as assessed for tax purposes. There are, in contrast, no rent taxes on fishery

23. See for an extensive discussion the 1999 *OECD Economic Survey* of Norway.

24. The uplift is an extra deduction that tops up the annual depreciation allowance by 5 per cent of the investment (for a period of six years). Moreover, companies pay a royalty of 8 to 16 per cent of gross sales on oil from fields cleared for development before 1986, an acreage charge (levied as a lump sum per square kilometre licensed) and the CO_2 tax.

25. The SDFI is managed by *Statoil* on the state's behalf.

26. Some oil and gas producing countries in the OECD area, in particular the United States (Gulf of Mexico), Canada and Australia, capture the natural resource rent by auctioning-off production licenses.

27. A minority in the Commission, however, noted that it was too early for any firm conclusions in view of the complexity of the offshore tax regime.

28. The tax is levied per power station, not at the company level, in order to ensure that all rent is taxed, including that used to cross subsidise other (less profitable) business.

and forestry activities, nor are rents in these sectors extracted by other means such as the auctioning of quotas or acreage.

Preferential tax treatment

20. Norway maintains several special tax schemes to support business it considers essential for economic activity in remote areas, or where similar preferential schemes abroad exist. Most importantly, a special tax regime for the shipping industry was adopted in 1996 in an effort to respond to similar moves by other seafaring nations. In particular, shipping companies are exempt from the corporate income tax on retained profits, thereby effectively postponing the tax payment until the profits are distributed.[29] This measure partly restored a facility that existed before the 1992 reform, but that was abolished *inter alia* to remove a strong incentive for investors on the mainland to reduce their tax liability by investing in a shipping company. These incentives have thus been reintroduced to some extent, but in the current set-up investors are not allowed to deduct expenses or losses stemming from shipping companies against taxable profits in other sectors — a facility that existed prior to the 1992 tax reform. Nonetheless, the introduction of such a special regime for shipping threatens to exacerbate tendencies of international tax base erosion and could prompt demands for special tax treatment by other industries. Calls from the fishery industry to make fishing vessels liable to the same special tax regime have, however, not been heeded to date. Meanwhile, self-employed fishermen benefit from a more lenient interpretation of the split model, with the bulk of business income *de facto* taxed as ordinary (capital) income. In addition, a special tax deduction of 30 per cent (up to a maximum of NOK 70 000) and favourable depreciation rules apply.[30] A somewhat more lenient tax treatment also exists for farmers and forest owners.[31]

Other features: high indirect and low property tax

21. Looking at the composition of tax revenues by source, the high share of taxation on goods and services stands out (Table 5). This feature, which Norway has in common with the other Nordic countries, is even more marked when the large (corporate and indirect) tax revenue from oil and gas activities offshore is excluded. Excluding oil and gas taxes, the shares of corporate, personal income and social security tax in (mainland) GDP are broadly in line with those found in the European Union, whereas (mainland) taxes on goods and services yield over 5 percentage points more. The differences with the United States and Japan, where taxes on goods and services represent less than 5 per cent of GDP and 20 per cent of total tax revenues (compared to 38 per cent in Norway), are even more marked (Figure 6). Also striking is the much higher share of property taxes in these countries compared to both Norway and the EU.

---

29. Domestic shareholders receiving dividends are entitled to a full credit under the imputation system.

30. Fishermen are, moreover, liable to the lower 7.8 per cent rate for social security contributions rather than the 10.7 per cent rate that normally applies to self-employed workers. On the other hand, they pay a special tax on the gross operating surplus of a vessel (at a rate of 3.4 per cent in 2000).

31. Income from forestry is assessed according to a five year moving average of past earnings against which the annual forest duty of 8 per cent of the market price of wood is deductible, provided that this credit is used for investment purposes or environmental protection. Realised capital gains on agricultural or forestry property (including mobile assets such as feedstock or milk quota) are tax free under certain conditions. Also under certain conditions, owners of reindeer may claim a deduction of up to 80 per cent of their income. The amount must be deposited in a special bank account, and will be taxed when cashed. The government has recently proposed to introduce a separate tax deduction against ordinary income from farming (up to a ceiling of NOK 36 000 per farm) to compensate for a drop in prices of agricultural products.

Table 5. **Tax shares in GDP**
Per cent, 1997

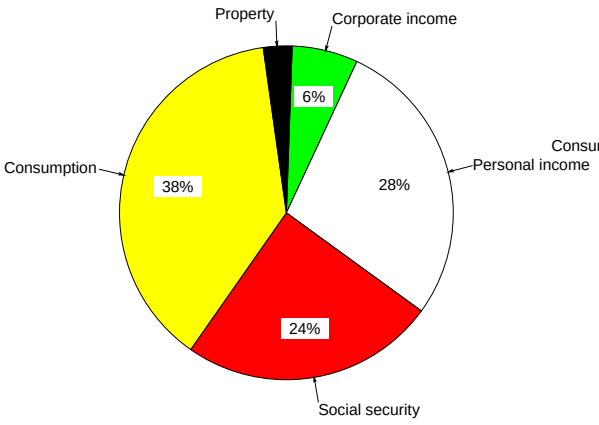
	Corporate income	Personal income	Social security	Goods and services	Property and wealth	Total
Norway	**5.2**	**11.0**	**9.6**	**15.8**	**1.1**	**42.6**
Norway (mainland)[1]	**3.1**	**13.4**	**11.6**	**18.1**	**1.4**	**47.6**
EU[2]	3.5	11.6	11.9	12.6	1.8	41.4
OECD[2]	3.0	9.5	9.3	8.0	2.5	32.4
United States	2.7	11.0	6.9	4.7	3.0	28.3
Japan	4.3	5.9	10.6	4.7	3.1	28.6
Germany	1.5	8.9	15.5	10.3	1.0	37.3
France	2.6	7.4	18.3	12.6	2.4	43.3
Italy	4.2	11.6	14.9	11.5	2.3	44.4
United Kingdom	4.3	8.8	6.1	12.3	3.8	35.3
Canada	3.8	15.1	5.0	9.1	3.7	36.7
Australia	4.5	14.9	..	8.5	2.8	30.7
Austria	2.1	13.5	15.2	12.5	0.6	43.8
Belgium	3.4	14.3	14.6	12.3	1.3	46.0
Czech Republic	3.3	5.2	16.9	12.6	0.5	38.6
Denmark	2.6	27.4	1.6	16.4	1.7	49.6
Finland	3.7	15.5	11.7	14.3	1.1	46.3
Greece	2.1	5.8	10.7	13.8	1.3	33.7
Hungary	1.9	6.7	14.1	15.3	0.6	38.6
Iceland	0.9	10.6	2.8	15.3	2.6	32.2
Ireland	3.3	10.7	4.2	13.0	1.6	32.8
Korea	2.2	3.8	1.9	9.7	2.9	20.5
Luxembourg	8.6	9.5	11.8	12.6	3.6	46.0
Mexico[3]	..	4.2	2.5	9.3	0.3	16.3
Netherlands	4.6	6.8	17.9	12.2	2.0	43.4
New Zealand	3.9	18.1	..	12.7	2.0	36.6
Poland	3.2	9.2	13.2	14.4	1.2	41.2
Portugal	3.7	6.2	8.9	14.5	0.8	34.2
Spain	2.6	7.4	11.8	9.7	2.0	33.6
Sweden	3.2	19.9	15.2	11.6	2.0	51.8
Switzerland	2.0	10.6	12.5	6.2	2.6	33.8
Turkey	1.6	6.0	4.0	10.3	0.8	22.8

1. As a per cent of mainland GDP.
2. Weighted average.
3. 1996 data.

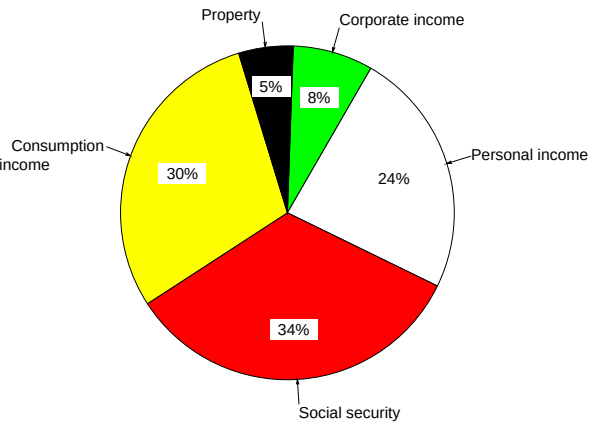
Source: OECD (1999), *Revenue Statistics.*

Figure 6. Tax mix by source
Per cent share of total revenue, 1997

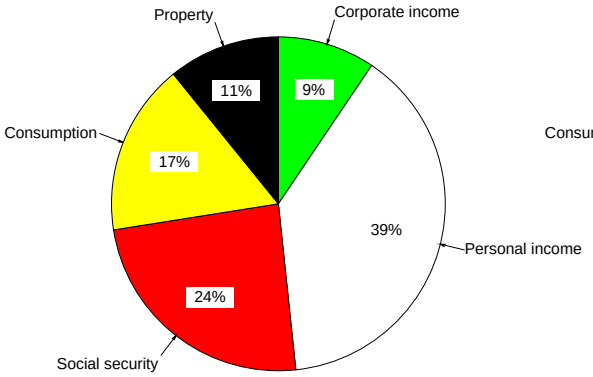
A. Norway (mainland)



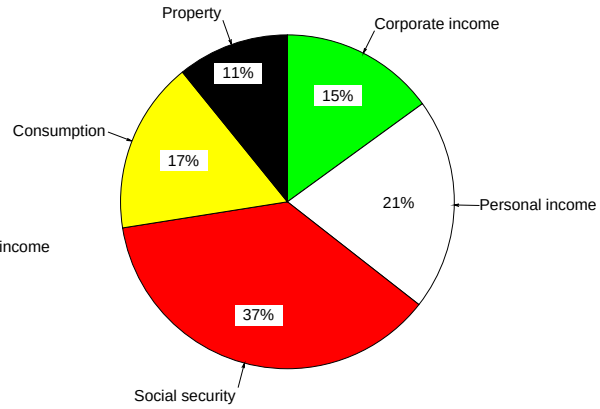
B. European Union [1]



C. United States



D. Japan



1. Weighted average.
Source: OECD (1999), Revenue Statistics.

22. The large indirect tax take reflects a combination of factors. At 23 per cent, the value-added tax (VAT) — which comprises two-thirds of indirect tax revenues — is high by international comparison, with higher rates found only in Denmark, Iceland and Sweden. Moreover, Norway does not have a reduced VAT rate, but a narrower group of service activities is taxed than in other countries.[32] Norway also has a rather unique investment tax of 7 per cent on capital goods purchases.[33] Finally, Norway levies high excise taxes on specific products. Excises on alcohol and tobacco represent almost a tenth of total indirect tax revenue, while approximately one-fifth of the revenue from indirect taxes consists of environmental ("green") taxes. They consist mainly of vehicle excises, CO_2 and sulphur taxes. At around 3½ per cent of GDP, the environmental tax take is among the highest in the OECD area, and well above the area-average of 2½ per cent.

23. The strong emphasis on indirect taxation has a number of advantages. Indirect taxes are relatively neutral with respect to saving and investment decisions while the cost of tax collection and administration is relatively low. Green taxes are expected to internalise the adverse external effects of consumption and production on the environment, even though their efficacy could be improved.[34] It is remarkable that a country attaching a large weight to equity has adopted such high indirect taxes, which are often considered to widen the real after-tax income distribution — at least in a "static" sense, not considering the distribution of life-time income. However, in Norway this is deemed to be less of a concern since indirect taxes are tilted towards goods that are considered to be "luxury" goods (purchase and use of passenger cars, alcoholic beverages), and therefore have a progressive thrust, or carry serious health risks (alcoholic beverages, tobacco products). On the other hand, the investment tax entails high administrative costs both for the government and business and is distortive, not in the least due to the many exemptions that have been introduced over time. Although several committees, like the Green Tax Commission and the Aarbakke Committee, have recommended its abolition, the investment tax has been maintained for revenue-raising purposes.

24. By contrast, the tax take on property and wealth is relatively small, not only in comparison with the United States and Japan, but also relative to some of the larger European countries (France, Italy and the United Kingdom). The municipalities are allowed to levy a property tax and they are free to set the tax rate subject to a ceiling.[35] A net wealth tax is also levied on (both real and financial) net assets but it is split between levels of government, with the respective rates determined by the central government as part of the annual budget process.[36] The valuation of owner-occupied houses for net-wealth and income tax purposes is around 25 per cent of the market value. This is low by international comparison, in particular in

---

32. Exemptions exist for cultural services, education, financial services, insurance, accountancy, brokerage, advisory services, lottery and gambling, medical and dental care, postal services, property letting, hotels, supply of land and buildings, broadcasting, legal services, public passenger transport, public cemetery and sporting events. VAT on books, periodicals, newspapers and electricity in northern parts of the country is zero-rated. The government envisages submitting a proposal for a wider VAT net to Parliament by the spring of 2000.

33. This is settled as a reduction of the VAT refunds. However, manufacturing and agriculture are exempt from the investment tax.

34. See the 1999 *OECD Economic Survey* of Norway.

35. The property tax is collected on hydropower plants, housing and commercial buildings, each comprising about one-third of the total yield, at a rate of up to the legal maximum of 0.7 per cent.

36. Since 1998 municipalities levy 0.7 per cent on net wealth and the central government has two brackets of 0.2 and 0.4 per cent, respectively. In 1998 the combined top rate was lowered from 1.5 to 1.1 per cent, with the ceiling for the sum of net wealth and income tax paid per individual raised from 65 to 80 per cent of ordinary income (capital, labour and pension income net of deductions). The business sector is not liable to the net wealth tax, but it is levied on shares held by households.

comparison with the other Nordic countries.[37] Concerning the net wealth tax, non-listed shares are assessed at 65 per cent of book value, listed shares at full market value and bank deposits at face value, while financial assets accumulated in occupational pension funds escape the tax net.[38] A drawback of this set-up is that very mobile tax bases with extensive avoidance opportunities (listed shares) are taxed at a high effective rate and immobile ones (housing, occupational pensions) at a low or zero effective rate. Moreover, since the tax authorities use the valuation of owner-occupied houses (including secondary residences) to compute the imputed rent income (of 2.5 per cent of the assessed value up to NOK 451 000 and 5 per cent of the value exceeding that threshold), the low assessment of property spills over into the income tax system.[39] As a result, there may be a considerable dead-weight loss associated with the property and net wealth tax. Countries that tax property and wealth at higher rates but employ a rate structure that better reflects the relative mobility of tax bases achieve higher revenues at a lower social efficiency loss.

25. A unique feature of the Norwegian system is that the employers' social security contributions are used as an important vehicle for maintaining settlements in remote areas. Social security in Norway is administered by the comprehensive National Insurance Scheme (NIS), which provides universal coverage for old age, disability and survivors pensions, as well as individual medical expenses and income compensation for unemployment and sickness. It is run by the central government and co-funded by employees' and employers' contributions. The former is levied as a flat rate on personal income, with different rates applied to *e.g.* labour and pension income. Employers' contributions are levied on the companies' wage bill according to a regionally-differentiated rate depending on the permanent residence of the employees; rates vary between 0 and 14.1 per cent, with the lowest rates applied to employees who live in the northern part of Norway. In 1998 the EFTA Court ruled that Norway should discontinue the rate differentiation in its present form as it was seen to conflict with EEA regulations. After the Court dismissed a Norwegian appeal in May 1999, the government pledged to abolish the rate differentiation in certain industries (notably steel products and shipbuilding).

26. A salient feature of the tax system in Norway is that local governments (municipalities and counties) are automatically entitled to a percentage of the tax collected in their jurisdiction. Such an arrangement exists for net wealth taxes (see above), and, more importantly, also for taxes on ordinary income (capital, labour and pension income net of deductions) of individuals (Table 1). Around half of local governments' budgets are financed by locally collected taxes, the bulk of which consists of tax on ordinary income.[40] This is reflected in a substantial local tax take (almost 10 per cent of mainland GDP and 25 per cent of total tax revenues excluding social security; see Tables 6 and 7), akin to levels found in federal countries like the United States, Germany and Switzerland. However, unlike federal states, local governments in Norway have practically no tax autonomy, as the central government determines both the tax base and the rate structure.[41] Such a combination of tax sharing between levels of government and the virtual absence of local tax autonomy is rather unique in the OECD.[42]

---

37. Denmark assesses property at full market value and Sweden at 75 per cent of market value, see Youngman and Malme (1994).

38. In 1998 the valuation of listed shares was raised from 70 to 100 per cent and for non-listed shares from 30 to 65 per cent of book value.

39. There is a NOK 51 250 tax-free allowance for primary residences.

40. Before 1998 the corporate income tax was also shared between the central and local governments, but it was then converted into a solely central government tax.

41. Local authorities may in principle reduce the income tax rate, but in practice all local jurisdictions use the highest allowable rates.

42. Hungary is the only country that reports a similar arrangement, see OECD (1999).

Table 6. **Funding of local government**
1999

	Billion NOK	Per cent
General revenues	139	70.2
Tax revenue	90	45.5
Block grants	49	24.7
Earmarked grants	30	15.2
Charges and fees	25	12.6
Other revenues	4	2.0
Total revenues	198	100.0

Source: OECD (1999), *Tax Policy Studies No.1, Taxing powers of state and local government.*

27. Since lower levels of government in Norway possess virtually no tax autonomy, tax competition between local governments is not an issue. Meanwhile, a system of block grants from the central to lower governments (based, *inter alia*, on local per capita income and demographic features) ensures that per capita local government revenues are equalised across regions. As a result, the share of grants in municipal revenues varies between 25 and 55 per cent and in county revenues between 30 and 65 per cent.[43] This feature, together with a system of centralised planning, regulation and supervision of locally provided health care, education and other public services, ensures that provision levels are also equalised across regions — even if some competition between jurisdictions on the provision of public services exists.[44] At the same time, employers' social security contributions are differentiated by region (see above) while residents of the northern part of Norway benefit from several tax expenditures, among which reduced rates of personal income taxes (tax on ordinary income and the surtax) levied by the central government. The purpose of this set-up is to attract or maintain employment in remote areas, and is part of a broader overall framework of regional policy that includes agricultural support, support schemes for small and medium-sized enterprises located in rural areas and soft housing loans.

III. Weaknesses of the system and options for reform

28. The 1992 reform of the system of corporate and personal income tax has had favourable effects on macroeconomic efficiency and performance. However, the reform left some unfinished business, in particular concerning the taxation of wealth and the preferential tax regimes for agriculture and forestry . In addition, the “split model” to separate labour and capital income of self-employed and small business owners proves to be susceptible to tax planning and loopholes, while recent initiatives unduly increase the progressivity of the personal income tax at the upper and lower ends of the pay schedule. Moreover, the special tax regimes offshore (shipping, oil and gas) have unintended externalities on mainland taxation. Finally, the tax-sharing arrangements between the central and local governments have, at times, led to a lack of local spending discipline. The sections below examine these weaknesses in more detail and suggest some options for reform; a synopsis of these options is provided in Box 2.

43. A tax equalisation fund to redistribute local income tax revenues across jurisdictions was abolished in 1996, but central government grants continue to assume this role.

44. Carlsen (1999).

Table 7. **Tax revenues by level of government**
1997

	As a per cent of GDP			As a per cent of of total revenue[1]		
	Federal or central government	Social security funds	State and local governments	Federal or central government	Social security funds	State and local governments
Norway	25.8	9.0	7.8	60.5	21.2	18.3
Norway (mainland)[2]	27.1	11.0	9.5	56.8	23.1	20.0
United States	12.5	6.9	9.0	44.1	24.2	31.7
Japan	10.9	10.6	7.1	38.2	36.9	24.9
Germany	10.8	15.5	10.7	29.0	41.6	28.8
France	19.4	20.3	4.8	43.0	44.9	10.5
Italy	26.8	14.9	2.6	60.4	33.5	5.8
United Kingdom	27.1	6.1	1.4	76.9	17.2	3.9
Canada	15.5	5.0	16.7	41.7	0.0	44.9
Australia	23.8	0.0	6.8	77.7	0.0	22.3
Austria	23.0	12.3	8.8	52.0	27.8	19.8
Belgium	16.4	16.1	13.0	35.5	35.0	28.2
Czech Republic	17.1	16.9	4.5	44.4	43.9	11.7
Denmark	32.3	1.6	15.5	65.2	3.2	31.2
Finland	23.9	12.0	10.3	51.5	25.9	22.3
Greece	23.0	10.1	0.4	68.3	30.0	1.2
Hungary	24.6	12.9	1.6	62.9	33.0	4.1
Iceland	24.6	0.0	7.5	76.6	0.0	23.4
Ireland	28.0	3.8	0.7	85.2	11.5	2.1
Korea	15.4	1.9	4.1	72.2	8.8	19.0
Luxembourg	29.9	11.3	2.7	66.9	0.0	6.0
Mexico	14.2	2.7	0.0	83.9	16.1	0.0
Netherlands	23.8	17.9	1.3	54.7	41.0	3.0
New Zealand	34.6	0.0	2.0	94.6	0.0	5.4
Poland	22.9	12.5	3.6	58.8	32.1	9.1
Portugal	22.9	9.3	2.0	66.6	27.1	5.7
Spain	16.4	11.7	5.4	48.8	34.6	16.1
Sweden	24.0	11.4	15.8	46.2	21.9	30.5
Switzerland	9.4	12.5	11.9	27.9	36.9	35.2
Turkey	20.4	4.0	3.5	73.1	14.5	12.4

1. Where the sum of the per cent of total revenues for any country does not add up to 100, the residual covers the supranational sector.
2. The per cent of GDP data is calculated using mainland GDP.

Source: OECD (1999), *Revenue Statistics.*

Box 2. **Synopsis of the options for future tax reform**

Enhance the neutrality of capital taxation

- Broaden the tax base for property and income tax (on imputed rent) concerning owner-occupied housing, to level the tax playing field between housing capital and other forms of capital.
- Move away from the net wealth tax to an extended property tax to strike a better balance between the taxation of immobile and (internationally) mobile forms of capital. In a similar vein, remove or, at least, reduce the preferential tax treatment of occupational pension funds.

Remove incentives for tax planning in the dual income tax system

- Weigh a rise in the rate of capital income against lower double-taxation relief of distributed or retained profits accruing to domestic investors through the imputation and RISK systems.
- Reconsider the introduction early in 2000 of the additional income tax bracket for top wage earners.

Limit the incentives for tax shifting from the mainland to the petroleum tax regime

- Reduce interest deductions stemming from investments on the mainland against income on the continental shelf, *e.g.* by changing the rules for allocating interest expenditure between the mainland and petroleum tax regimes or by adopting a tighter "thin capitalisation rule".

Improve the mix of indirect taxes

- Widen the VAT base to include various services, in particular passenger transportation.
- Remove exemptions from green taxes granted to several industries, such as heavy metals, fisheries and shipping.
- Abolish the investment tax.

Adjust the inter-regional allocation of resources through the tax system

- In order to raise incentives for local spending restraint, further move away from tax sharing to block-grant funding and provide local government with a stable own tax base — *e.g.* through greater reliance on the property tax — to ensure budget flexibility at the margin.
- Re-consider the amount of regional redistribution through the tax system in order to minimise efficiency losses that could emerge from taxing earnings in remote areas at lower rates.

The taxation of property and wealth is distorting

29. Important unfinished business left by the 1992 tax reform relates to the distortions that stem from the property and the net wealth tax. Taxation of wealth and property should in principle serve to supplement the taxation on income and consumption by widening the overall base of the tax system. It is also deemed to be an important instrument of income distribution policy since it typically affects higher-income groups most (44 per cent of the net wealth tax is paid by the upper income decile). However, the diverging tax assessment of wealth components jeopardises "horizontal" equity, as taxpayers with comparable levels of net wealth may face widely different tax burdens.

30. As already indicated, the lenient taxation of housing generates a strong bias towards accumulation of wealth in the housing stock. The tax authorities, as noted, typically assess house values at around 25 per cent of the market price, while they calculate the imputed rent income at 2.5 per cent of the assessed value for all but the most expensive houses — a rate much below the normal return on other types of investment. This way of assessment considerably reduces the tax base for owner-occupiers with respect to income and net wealth taxation, and represents an implicit subsidy discriminating against other

instruments of capital formation. The authorities estimate the revenue loss associated with the lenient taxation of owner-occupied housing at NOK 22.4 billion, or almost 3 per cent of mainland GDP.[45] The potential welfare gain resulting from a move towards neutral tax treatment of owner-occupied housing *vis-à-vis* other forms of capital may be as large as the gain achieved by the 1992 tax reform.[46] Unfortunately, a coherent approach to the taxation (including tax assessment and valuation) of property, net wealth and imputed rent has so far met formidable political obstacles. This issue should nevertheless remain on the agenda with a view to eventually abolishing the net wealth tax while enhancing the role of property taxation in line with developments in other countries. Such a shift from internationally mobile to immobile capital tax bases would have the additional advantage of removing incentives to expatriate financial capital. A similar reasoning suggests the removal or easing of the preferential tax treatment of occupational pension funds (an immobile tax base) as opposed to other forms of saving.

The "dual" income tax prompts tax planning

31. Due to the wide difference in tax rates between capital and labour, the so-called split model to separate capital and wage income for self-employed and owners of small incorporated businesses has been found to produce strong incentives for tax planning in various areas:

- Incentives for small corporate business owners to exploit tax loopholes are strong. For example, small businesses that are subject to the split model have an incentive to inflate the assets of the company since this will lower their tax bill by raising the income share that is taxed at the 28 per cent rate.[47] A generous provision in the split model, moreover, is that losses may be indefinitely carried forward whilst there is no loss offset against current income from other sources. This generates incentives to buy small corporations that accumulated losses that can be used to reduce the taxable profits of the acquirers. Finally, analysis of individual tax statements suggests that tax incentives must play an important role when companies move from active to passive ownership.[48] Such incentives have become even stronger with the introduction of the new upper bracket in the income surtax, in particular for liberal professions.

---

45. The under-valuation of owner-occupied housing for net wealth purposes, for income tax purposes, and the low rate of imputed rent (2.5 per cent) as compared to market rates of return (assumed to be 5 per cent) each explain roughly one-third of the estimated revenue loss.

46. See Holmøy and Vennemo (1995), who estimate the welfare gain stemming from the 1992 tax reform to be 0.75 per cent, noting that the reform only concerned 60 per cent of the physical capital stock — excluding *e.g.* housing.

47. The income tax bill for a small company owner is determined as:

$$T = m \cdot Y - (m - t) \cdot k \cdot A - t \cdot i \cdot B$$

where: t = tax rate on capital income (28 per cent), k = imputed nominal return on business assets, A = book value of business assets in the tax accounts, i = nominal interest rate, B = stock of business debt, m = effective tax rate on personal income of the self-employed, Y = business profits before interest [see: Hagen and Sørensen (1998)]. On the other hand, by inflating its assets, the company will face a higher net wealth tax bill.

48. A survey carried out by the tax authorities in 1997 indicated that the number of companies that moved from active to passive ownership increased from about 8 per cent of the stock in 1993 to 11 per cent in 1995. These moves may in part reflect a one-off effect from the introduction of the 300 hours rule in 1995.

- Incentives for liberal professions — *e.g.* lawyers, dentists and accountants — to incorporate in order to exploit the above tax loopholes, have become stronger over time. As discussed in Box 1, in 1995 the Parliament raised the income threshold for liberal professions above which personal income is taxed as capital income and in 1998 it went as far as to entirely abolish the threshold. As a result, all personal income of liberal professions in the split model is henceforth taxed as labour income. In parallel, the taxation of other occupations under the split model (including farmers) was reduced. Moreover, the introduction, in 2000, of a new upper bracket in the national income surtax widened the differential between the (top) marginal tax rates on labour and capital income in the split model for liberal professions by as much as 6 percentage points. The resulting incentives for liberal professions to incorporate and subsequently qualify as a "passive" company owner in order to avoid the labour income tax are strong, although these incentives have been contained somewhat by measures in 2000 to tighten the "identification rules" (see Box 1).

32. All considered, the taxation of income from small business is the Achilles heel of the dual income tax. Not surprisingly, the tax authorities report a high administrative burden associated with the split model, even if it applies in effective terms to only a minority of self-employed workers and to around 50 000 limited companies that in most cases have just one employee, the "active owner". The policy debate has so far moved in the direction of exploring the possibilities of reducing the gap in taxation between capital and labour income economy-wide while preserving the neutrality of capital income taxation across funding options and ways of doing business. An official *Tax Reform Committee*, which reported its findings in 1999,[49] has examined the welfare impact of a small increase in the capital income tax rate combined with a reduction in the income surtax. The reported effects are generally small, but positive. Unfortunately, while the report of the *Committee* remains on the political agenda, the marginal tax rates on wage income were, as noted, raised further early in 2000, both at the lower and higher ends of the pay schedule. This will provide further incentives for tax avoidance by liberal professions (who may incorporate), small company owners in liberal professions (who may move toward passive ownership) and low-paid workers (who may withdraw from the labour market). The impact on lower-paid workers may be particularly damaging in the longer run as it tends to discourage the maintenance or formation of human capital.

33. While it is likely that the government will maintain the split model, there are pros and cons associated with this choice. On the one hand, by preserving the split model, Norway will continue to achieve a high degree of neutrality between ways of doing business and funding investment, thereby avoiding an important source of inefficiency. But, on the other hand, this advantage comes at a potentially high price. In particular, the arrangements that undo double taxation of dividends and retained earnings (imputation and RISK systems) have certain disadvantages. Dependent upon the bilateral tax treaties in place, foreign investors in Norwegian corporations may not fully benefit from such double taxation relief. This feature may restrain foreign capital inflows and therefore slow down the potential growth rate of Norway's mainland economy. Moreover, the dual income tax system applies a uniform income tax by all forms of capital, mobile and immobile capital alike, and therefore carries an important dead-weight loss. The efficiency advantages stemming from Norway's dual income tax may have more than outweighed this drawback so far, but an increase in the rate of capital taxation from its present level of 28 per cent, an issue which has remained on the political agenda, would tend to accentuate the disadvantages. All considered, the positive aspects of the dual income approach could be strengthened by extending the use of property taxation and raising the rate of imputed rent income of owner-occupied housing, both to ensure that immobile capital (housing) is taxed at a higher effective rate than is presently the case and to provide room for cutting high marginal tax rates in areas that are susceptible to distortions.

49. Ministry of Finance (1999).

The special tax regimes entail unintended externalities

34. The presence of three separate regimes for corporate taxation for the mainland, the shipping and petroleum sectors is a special feature of the Norwegian tax system. There are clear rationales for some of these special arrangements, notably those that have been designed to capture natural resource rents by the government. However, these differences in tax treatment may produce incentives for tax planning by companies or investors that are in a position to choose between two or more of these regimes. While such behaviour may create inefficiencies, it also heightens the risk that some of the natural resource rents that policy aims to collect as government revenue in fact remain in the hands of the private sector. In particular, the "thin capitalisation rule" may not be sufficiently rigorous (see Box 3), and could be tightened in order to reduce distortions associated with tax planning. A straightforward alternative measure would be to tighten the tax rules for allocating interest expenditure between the mainland and petroleum tax provinces. Similar considerations apply to the shipping sector. Companies have also sought to avoid corporate tax by establishing holding companies in countries where dividend received from foreign subsidiaries is not taxed (Singapore, Denmark).

Box 3. **Incentives for tax shifting**

Although the evidence of tax shifting across regimes is scant, the incentives are clear. The larger operators on the continental shelf have stakes in the shipping and mainland traditional industries, and are likely to aim for an optimal regime mix of assets and liabilities from a tax-planning point of view. In particular, while a "thin capitalisation rule" limits the amount of debt that the operators on the shelf can claim interest deductions for under the petroleum tax regime, they may attempt to maximise debt/equity ratios within that constraint.[1] Indeed, a mainland investment which benefits from the possibilities of tax shifting towards the petroleum tax regime yielding a 6.5 per cent pre-tax rate of return would need to yield 12.5 per cent to be equally profitable without that advantage.[2] The incentives to avoid corporate tax by minimising the debt/equity ratio for tax purposes under the shipping tax regime are also clear. To limit the risks in this regard, the authorities have adopted a "thick capitalisation rule" which caps the allowed debt/equity ratio — at 50 per cent in 2000 (raised from 30 per cent in 1999).

A related concern is that the petroleum tax regime may give rise to incentives for investment in marginal, less productive fields. Under certain conditions the petroleum tax system provides a net subsidy. To yield a 9 per cent nominal after-tax rate of return, a 6 per cent nominal pre-tax rate of return may suffice owing mainly to the "debt subsidy" associated with interest deductions against the special surtax of 50 per cent.[3] On the other hand, unless they are small, such low-yielding investment projects are unlikely to be undertaken since they will normally not qualify for an investment permit from the competent authorities. But the incentives are strong and it may not always be easy for the authorities to disentangle low-yield and high-yield projects.

1. The thin capitalisation rule allows interest deductions for debt of up to 80 per cent of the investment. Under this rule, debt is defined to include the deferred tax liability associated with the return on the investment, hence in effective terms less than 80 per cent of the project is allowed to be debt financed. According to the petroleum tax act, interest payments are split between the mainland and petroleum tax provinces according to the company's net income in each province. In practice the latter rule does not act as a binding constraint since net income offshore is boosted by the natural resource rent.

2. The following assumptions have been made. An oil company provides capital to a subsidiary on the mainland, 80 per cent of which is raised via a loan. The associated interest expenditure is deducted against the company's net income on the continental shelf. The latter assumes that initially net income of the mainland subsidiary is zero or negative — if not, part of the interest expenditure would have to be allocated to the mainland tax regime in proportion to the company's mainland income. Income generated by the investment is taxed at 28 per cent. Dividends or other profit transfers from the subsidiary to the mother-company are not taxed under the petroleum tax regime.

3. This assessment is based on the following assumptions: the present value of tax depreciation, uplift and "debt subsidy" amounts to 79.4 per cent of the investment; the nominal after tax required rate of return is 9.1 per cent; the rate of inflation is 2.5 per cent; the rate of economic is depreciation 10 per cent; and the economic lifetime of the investment is 15 years.

High indirect taxes encourage cross-border tax avoidance

35. Given that taxes on goods and services in Norway are among the highest in the OECD area, it is not surprising that these are particularly prone to avoidance through cross-border shopping, smuggling and international tax loopholes. Cross-border shopping has historically been common among residents that live along the border with Sweden, and mainly concerns alcoholic beverages, tobacco, meat and petrol. The reduced VAT rate on food products in Sweden provides additional incentives for cross-border shopping. Smuggling is related mostly to alcoholic beverages, for which import restrictions are particularly tight. A future decline in excises on alcohol and tobacco in Sweden to comply with EU rules may put pressure on Norway to move in the same direction — with first steps possibly on the agenda in 2000. By contrast, the high tax on vehicles does not result in cross-border tax evasion due to registration requirements, but it does prompt evasion through registration of mini vans as business cars. Meanwhile, the airline industry has the possibility to avoid (non-reimbursable) VAT on fuels by combining domestic flights with international flights — a distortion that would be removed by including transportation services in the VAT net.

36. The scope for moving away from taxation of labour and capital towards taxation of goods and services — which is usually recommended as a remedy for tax base erosion in the face of globalisation and population ageing — is thus very limited in Norway. Nevertheless, there are ways to further raise the yield from indirect taxes. The VAT net could be widened to include service activities such as legal services, broadcasting and, importantly, passenger transportation — akin to most OECD countries. The implicit subsidies to these activities could then be converted into cash expenditure to improve transparency, or abolished. Moreover, and for the same reasons, exemptions from green taxes, including the CO_2 tax, that have been granted to a number of industries, such as metals, fisheries and shipping, could be removed.[50] This would also contribute to lowering the overall cost of abatement of environmentally-harmful emissions, especially if tax rate differentiation better reflected the content of polluting substances in products and activities. Alternatively, the government could opt for a tradable quota system covering the bulk of greenhouse gas emissions along the lines of the Kyoto Protocol, as proposed by an expert commission in late-1999. However, such a system would be cost-effective only if, as advocated by a majority in the expert commission, the quotas were freely tradable, both domestically and internationally. On the other hand, since there is no rationale for maintaining the investment tax, its abolition could offset a widening of the VAT and, possibly, the green tax net.

Vertical tax sharing generates spending pressures at lower levels of government

37. The system of local government funding in Norway has been designed to offset differences in income and cost levels, resulting in limited competition between local jurisdictions on levels of tax and public service provision. A key element of public funding arrangements in Norway is the sharing of major tax bases (personal income, net wealth) between administrative levels, with the rates largely determined at the central level. The literature emphasises that this feature could produce unintended externalities whereby policies implemented at one level affect the tax yield at the other.[51] In Norway, in contrast, such externalities are deliberate, in the sense that the central government actively uses the tax-sharing arrangement to steer local government budgets. A recurrent problem associated with this set-up in the 1990s has been that the annual projections on which the central/local split of income tax revenues is based often proved to be too conservative, thus leaving local governments with tax windfalls. This has, at times, created unintended incentives for local spending increases and thus contributed to tendencies of macroeconomic overheating. In an attempt to deal with these problems the government has gradually

50. See the 1999 *OECD Economic Survey* of Norway.

51. See Keen (1998).

reduced the local governments' share in income taxes (see Table 1). However, local governments nevertheless succeeded to "lock in" the higher levels of local expenditure.

38. Being aware of these risks, the government appointed a special committee (the *Rattsø Committee*), whose recommendations led to the abolition of the local component of the corporate income tax in 1998 (see above).[52] A consideration in abolishing corporate rather than personal income tax sharing was that corporate tax is relatively volatile and therefore particularly prone to projection errors and, more generally, less suited for jurisdictions that face a balanced-budget constraint. Cutting down the still existing sharing arrangements for other taxes and thus further shifting towards block-grant funding could yield additional benefits for budget planning and control at the local level. Meanwhile, providing local governments with more autonomy to exploit stable local tax bases, notably property, to a greater extent, could also help to strengthen their expenditure discipline. Indeed, greater local tax autonomy implies that local governments that opt for raising spending programmes also face the fiscal consequences, provided that central government grants are used to internalise spill-over benefits to neighbouring jurisdictions rather than to compensate for local funding deficits. Property taxes are best suited for this purpose since they tax a tax base that is least susceptible to avoidance, and therefore provide stronger incentives for expenditure restraint through voting behaviour of citizens.[53]

39. Moreover, the local government's funding and tax system (including the differentiation of employers' social security contributions and the preferential tax treatment of self-employed people in agriculture and fisheries; see above) is an important element of regional policy, and the question arises whether the current set-up is cost-efficient in achieving regional policy goals. In the 1999 *OECD Economic Survey*, Norway already maintains high support for remote areas in the form of support for agricultural activity through administered prices, import quotas and tariffs, alongside the regional re-distribution of resources through the grant system and the favourable tax treatment of remote economic activities (agriculture, forestry, fisheries, long-distance public transportation). The government should re-consider the amount of such regional redistribution in order to minimise efficiency losses that could emerge from regional policies. An overall assessment of such productivity losses associated with regional policies is long overdue. This is all the more important since increases in mainland productivity are needed in order to offset the loss in per capita income associated with the expected decline in petroleum production in the longer run.

52. Ministry of Labour and Government Administration (1996).

53. The ageing of the population would also argue for a move towards property taxes, since retired people typically store the bulk of their wealth in property.

Annex

Main features of the tax system updated to 1 January 2000

Table A1. **Taxes levied on corporate income: standard regime**

Nature of the tax

- Resident companies are liable to a national income tax (*fellesskatt til staten*) only. The municipal income tax was abolished from 1998.
- In practice, a company is resident if it is incorporated under Norwegian law. The location of the place of effective management in Norway also constitutes residence.
- A company is taxable on world-wide income.
- Income and capital gains are pooled and taxed at the same rate. Capital gains derived from the sale of business assets are normally included in taxable income. However, with respect to sales of assets in depreciation classes *a*) to *d*), the sale proceeds may instead be deducted from the collective depreciable basis.
- For capital gains and losses realised on other depreciable assets, depreciation classes *e)* to *h)*, and on non-depreciable assets there is also an option. They may be taxed or deducted immediately or they may be booked on a gains and losses account. At the end of each year, at least 20% of any positive balance is included in income and up to 20% of any negative balance deducted from income.

Exemptions, credits and allowances

- Norway has an imputation system. Resident individual and corporate shareholders are taxable on dividends received, but are entitled to a tax credit against their tax liability. The credit is equal to the tax on the dividends.
- The tax credit is computed at the same rate at which corporate income tax is levied.
- Unilaterally, Norway grants residents an ordinary foreign tax credit for income tax paid abroad. The credit is granted on an overall basis.
- If a Norwegian company, either alone or in association with no more than nine other residents of Norway, owns immovable property or business establishments abroad, it may be treated, subject to the approval of the Ministry of Finance, as if it owned such property and business establishments directly. The company may then be able to claim tax credits for the tax paid by the non-resident company. This only applies if double taxation is not relieved by a tax treaty.
- Excess foreign tax credits may be carried forward for 10 years.
- Foreign tax on business income may be deducted as an alternative to taking a tax credit.
- Where a tax treaty applies, the taxpayer may, in general, choose between unilateral and treaty relief.
- Losses may be carried forward to be set off against profits for the next 10 years. When a company liquidates, losses of the year of liquidation may be carried back to be set off against profits of the preceding 2 years.
- A limited and general deduction for doubtful debts may be made.
- Depreciable business assets are divided into eight classes. The maximum rates of annual depreciation are:

Class	Description	Rate (%)
a	Office machines	30
b	Goodwill, acquired through purchase or gift or inheritance	30
c	Trucks, trailers, buses, taxis and vehicles for disabled persons	25
d	Ordinary motor cars, tractors, other rolling equipment, tools, *etc*.	20
e	Ships and other vessels, drilling rigs, etc.	20
f	Aircraft and helicopters	12
g	Buildings and plant, hotels, guest houses, restaurants, etc.	4
h	Office buildings	1

- Business assets in classes *a)* to *d)* are written down on a collective basis, *i.e.* on the aggregate book value of assets in the same class at the beginning of the year, as increased by the cost of assets acquired during the year.
- Business assets in classes *e)* to *h)* are depreciated individu-ally. Gains and losses on disposal are booked on a special gains and losses account, as is a negative balance regarding acquired goodwill, except that gains may be included in taxable income immediately if the taxpayer so elects. If at the end of the year the gains and losses account shows a positive balance, at least 20% of this balance is transferred to taxable income, whereas up to 20% of any negative balance is deductible.

Rates

- For the income year 2000, the rate of the national corporate income tax is 28%. The rate of the municipal corporate income tax is 0% with the effect that no municipal corporate income tax is levied for 2000.

Source: International Bureau of Fiscal Documentation (1999) and Ministry of Finance.

Table A2. **Taxes levied on corporate income: special regimes**

Shipping

Nature of the tax

- A Norwegian-incorporated company may elect to have shipping income exempt from corporate income taxation and, instead, pay a tax on dividends and on net tonnage under a shipping taxation regime. To qualify for the regime a company may hold no assets other than ships in operation, movable equipment to be used for the exploration of petroleum and certain financial assets.
- If a company has opted for the regime its activities are restricted to the leasing or operation of owned or leased ships, and the company's day-to-day business must be carried out by a company not subject to the shipping taxation regime. This is to ensure that only the return on capital investment in a ship is exempt from the normal corporate income taxation.

Rates

- For 2000 the tax on net tonnage is levied as follows:

Net tonnage (tonnes)	Tax per day per 1 000 tonnes (NOK)
Up to 1 000	0
1 001 — 10 000	72
10 001 — 25 000	48
Over 25 000	24

The rates may be reduced by up to 25% if the ship meets certain environmental criteria.

- Profits from shipping activity are not taxed on an annual basis. However dividends are taxed at a rate of 28% levied on the *company*, unless the distribution is made out of taxed (net financial) income. This tax is in addition to the net tonnage tax. The taxable base is an amount equal to 139% of the distribution. This is to ensure that the imputation tax credit granted to resident shareholders is given only for tax actually paid. Taxed income is considered distributed before untaxed income.
- Net financial income is taxed at the normal corporate income tax rate of 28%.

Petroleum exploration and exportation activities

Nature of the tax

- Resident and non-resident companies engaged in the exploration for an exploitation of submarine petroleum resources and related activities, including pipeline transport of petroleum produced, are subject to the following taxes:
  a) income tax levied at a rate of 28%; and
  b) the petroleum tax on these activities.
- Generally speaking, the Petroleum Tax Act extends only to the Norwegian offshore area. Non-resident companies are fully taxable but tax treaty rules may result in an exemption from the petroleum tax depending on whether their activities constitute a permanent establishment which subjects them to Norwegian taxation.
- The petroleum tax is payable on that part of the net income which exceeds 5% of the cost of depreciable assets which have been put into ordinary use for these activities and which have been acquired before the beginning of the relevant year (but not more than 6 years ago).
- Taxable income (and capital) is computed according to special rules which include:
  a) gross income and the value of stocks of petroleum are assessed according to norm prices;
  b) deduction for ordinary depreciation may be claimed up to a maximum of 16.67% per annum; and
  c) operating losses may be carried forward for 15 years subject to certain conditions.
- Petroleum produced is valued at "norm" prices determined quarterly by the competent authorities. Norm prices apply only to produced oil (not gas) and are "the equivalent of the price at which petroleum would have been sold between independent parties in a free market".
- No deduction is allowed for dividends declared out of the annual profits and for losses arising from other activities.

Rates

- The petroleum tax rate is currently 50%. The basis of assessment is the income included in the computation of national income tax.
- In respect of oil fields whose development plans were accepted before 1 January 1986, a royalty (*produksjonsavgift*) must also be paid. The royalty is levied at fixed rates between 8% and 16% on the value of the quantity of oil produced. The royalty will be phased out over a period of 6 years. A CO_2–tax is charged on petroleum that is burnt and natural gas that is discharged to air. The rate is 70 øre per Sm^3 o.e. or per litre of oil.

Source: International Bureau of Fiscal Documentation (1999) and Ministry of Finance.

Table A3. **Taxes levied on household and other business income: national and municipal taxes on net income**

Nature of the tax	
• The national income tax (*fellesskatt til staten*) and the municipal income tax (*inntektsskatt til kommunen*) are levied on world-wide net income of resident individuals. Net income is also referred to as *ordinary income* and comprises, *inter alia*, income from present and past employment, income from business or profession, annuities, fringe benefits and income from immovable and movable property. • Capital gains realised on the sale of movable or immovable property are generally taxable (and capital losses are deductible).	• Income from immovable property includes the rental value of owner-occupied dwellings (2.5% of the assessed value, but 5% of the part of the value that exceeds NOK 451 000. The taxable value of the taxpayer's sole or main residence is reduced by NOK 51 250. • The incomes of a married couple are generally aggregated and taxed together. However, if both spouses have income, they will normally be taxed separately (class 1).
Exemptions, credits and allowances	
• An imputation system applies to dividends distributed by resident companies to resident individuals and shareholders. Dividends received are included in the tax base of the shareholders and taxed at the general rate of 28%, but the shareholder is entitled to a tax credit equal to the tax on dividends. • Capital gains on personal immovable property (subject to certain conditions) are exempt. Capital gains on shares in resident companies are exempt in so far as these reflect the company's retained profits and to the extent they are attributable to the shares owned by the taxpayer. • Unilaterally, Norway grants residents an ordinary tax credit for income tax paid abroad. Where a tax treaty applies, the taxpayer may, in general, choose between unilateral and treaty relief. • Premiums for private pension schemes and contributions to certain saving schemes are deductible up to a limit of NOK 40 000.	• The personal allowance for jointly assessed married couples and for single persons with dependants is NOK 55 400. The allowance for other persons is NOK 27 700. A taxpayer is entitled to child deductions, amounting to NOK 1 820 for each child below 18 years of age. • For expenses incurred in carrying out an employment, a minimum deduction equal to 22% of employment and pension income, with a floor of NOK 4 000 and a ceiling of NOK 36 600, is granted. If actual expenses exceed these limits, they may be deducted instead. • As from 2000 a new allowance of NOK 30 600 is introduced. The allowance is deductible against ordinary income. The taxpayer will have to choose between the existing minimum deduction and the new allowance. • Childcare expenses for children under the age of 12 may be deducted up to a ceiling of NOK 25 000 for one child and NOK 30 000 for two or more children.
Rates	
• The national and municipal income taxes on net income are levied at a combined maximum rate of 28%. This rate comprises national income tax of 17.1% (a reduced rate of 7.4% applies to certain remote regions) and municipal and county income tax at maximum rate of 10.9%.	• The municipal rate may vary between 16.35% and 17.1%, but in practice the maximum rate applies.

Source: International Bureau of Fiscal Documentation (1999) and Ministry of Finance.

Table A4. **Taxes levied on household and other business income: national income tax on gross income**

Nature of the tax

- The additional national income tax is levied on gross income from certain sources only (*toppskatt til staten*). Gross income is also referred to as *personal income*, and includes:
  - Wages and salaries and other remuneration for work performed in or outside an employment situation, including fees, commissions, tips, etc.
  - Remuneration as a member of a board of directors, etc.; benefits in kind received with the above sources; pension and life annuities in relation to employment; various social security benefits (sick pay, unemployment benefits); personal income of owners of a one-man company, of active shareholders of a company, or derived from active participation in partnerships.
- The personal income of persons engaged in a business and of active participants and shareholders in companies and other entities is computed in the so called split model by eliminating any capital income or losses from the business entity's total income and by subtracting that part of the income which is deemed to be a remuneration of the capital used in the business, and by further subtracting 20% of the employment income paid to any employees of the business.

Exemptions, credits and allowances

No special allowances or deductions are granted in computing the tax base

Rates

Class 0 and 1	Class 2	%	Class	Taxpayers
Up to NOK 277 799	Up to NOK 328 999	0	0	Most non-residents
NOK 277 800–762 699	NOK 277 800–762 699	13.5	1	Single persons without dependants and married persons assessed separately
Over NOK 762 700	Over NOK 762 700	19.5	2	Married couples assessed jointly and single persons with dependants

Source: International Bureau of Fiscal Documentation (1999) and Ministry of Finance.

Table A5. **Social security contributions**

National insurance premiums	**Employers' social security contributions**
Nature of the tax	
• The taxable income basis is identical to that of the national income tax on gross income (see Table A4).	• Contributions are levied on a company's payroll.
Exemptions, credits and allowances	
No special allowances or deductions are granted in computing the tax base.	
Rates	
Category — %	• Employers' social security contributions are payable at a rate of 14.1%. Lower rates of 0%, 5.1%, 6.4% and 10.6% apply with respect to most of the employees who live in northern Norway and in developing areas. There is an additional 12.5% employers social security contribution if an employee's salary from the same company or group of companies exceeds 16 x G[1] (the employee's contribution is not increased). Social security contributions are deductible for corporate income tax purposes.
All employment income. — 7.8	
Pension and life annuities, employment income of persons under 17 or over 69 years of age. — 3.0	
Labour income of self-employed individuals up to an income of 12 x G.[1,2] — 10.7	

1. G is the weighted average basic amount for social security purposes. G = NOK 46 423 from 1 May 1999.
2. The rate is 7.8% on income from self-employment over 12 x G.

Source: International Bureau of Fiscal Documentation (1999) and Ministry of Finance.

Table A6. **Taxes levied on consumption and investment**

Value-added tax	Investment tax	Excise duties
Nature of the tax		
• Registered entrepreneurs, selling taxable goods and services in Norway, and importers are liable to value added tax *(merverdiavgift)*. • The taxable base is the consideration received for sales of taxable goods and services, and value at importation including import duties. In computing an entrepreneur's final turnover tax liability, the tax paid on his purchases and imports may be deducted so that, in effect, only the value added is taxed.	• The taxable base is the value of fixed business assets purchased by entrepreneurs for lasting use in their business, on which the value added tax is deductible. In practice, the investment tax operates as a limitation on the deductibility of input VAT. As the rate of the investment tax is 7% this means that only 16% of the 23% input VAT may be deducted if the investment tax applies.	• Taxes on alcoholic and non-alcoholic beverages, beverage packaging, tobacco, vehicles, petrol and diesel, electricity, mineral products, waste, lubricating oil, pesticides, sweets, sugar, real property transactions, air travel, radio frequencies.
Exemptions, credits and allowances		
• Exemptions exist for charity, cultural services, education, financial services, insurance, lottery and gambling, medical and dental care, postal services, property letting, supply of land and buildings, broadcasting, legal services, public passenger transport, public cemetery, burial and funeral services and sporting events.	• The law provides for exemptions with respect to, *inter alia*, assets used in manufacturing goods; lorries, trailers, quarrying, construction of sewerage systems by municipal authorities, and construction of buildings and installations in northern Norway.	
Rates		
• The rate is 23%. • To some goods a zero rate is applied (mainly books, periodicals, newspapers and electricity in the northern parts of the country).	• The rate is 7%.	

Category[1]	NOK per	Lowest	Highest
Vehicles[2]	kilo	25.16	117.05
Car fuel[3]	litre	3.74	4.34
CO_2 car fuel[4]	litre	0.47	0.94
Wine-spirits	litre and % of alcohol	3.65	7.04
Beer[5]	litre	1.58	16.37
Beverage packing[6]	unit	1.00	4.00

1. Selected products; list is not exhaustive.
2. Progressive rate structure, maximum rate is the marginal rate for cars weighing over 1 500 kg (from 2000).
3. Diesel — unleaded petrol.
4. Mineral oil — petrol.
5. Alcohol-free — up to 4.75% alcohol. Beer with more than 4.75% alcohol has a tax rate of NOK 3.65 per litre and % of alcohol (from 2000).
6. Carton — metal and glass (from 2000).

Source: International Bureau of Fiscal Documentation (1999) and Ministry of Finance.

Table A7. **Taxes levied on property**

Real estate	Net wealth	Inheritance and gifts
	Nature of the tax	
• Immovable property situated in Norway is subject to municipal real estate tax (*eiendomsskatt*) provided the local municipality has made use of the authority to levy the tax (this is the case in most urban areas in Norway), but in principle companies can be subject to a real estate tax also outside urban areas. The taxable base is the assessed value of the immovable property, which usually is between 20% and 50% of the fair market value. • Both corporations and individuals are liable to the tax.	• Resident individuals are subject to national net wealth tax (*formuesskatt til staten*) and municipal net wealth tax (*formuesskatt til kommunen*) with respect to their world-wide net wealth. The net wealth taxes are levied on the net value of the taxpayer's assets at the end of the tax year. The net wealth of married couples living together is aggregated for tax purposes. • Non-residents are subject to Norwegian net wealth taxes with respect to the property of a Norwegian business carried on by them or in which they participate, and with respect to immovable and tangible movable property located in Norway. The tax liability of non-residents may be further restricted by tax treaty provisions. • The taxable value of financial assets is a fixed share of the assessed market value, according to the following rates: Non-listed shares and listed shares in small and medium sized companies 65% Other 100%	• The person receiving the inheritance or gift is liable for the tax thereon. • The inheritance tax is due with respect to all assets, wherever located, if the deceased at the time of his death was a resident of Norway or a Norwegian national, wherever resident. However, if the deceased was resident in another country, no tax liability will arise on the basis of his Norwegian nationality provided his estate has been subject to an inheritance or similar tax in his country of residence. • When the deceased is a non-resident, Norwegian inheritance tax is due with respect to immovable property located in Norway and business property belonging to a permanent establishment in Norway. • The above rules also apply, *mutatis mutandis*, to taxable gifts, depending on residence and nationality of the donor and location of the assets donated.
	Exemptions, credits and allowances	
	• Immovable property situated abroad is exempt. The same exemption may apply if the taxpayer, alone or together with not more than nine other residents of Norway, owns at least 95% of the share capital of a non-resident company owning such immovable property abroad. • An ordinary tax credit is granted for net wealth tax paid abroad, but only against Norwegian net wealth tax.	• An exemption applies with respect to immovable property located abroad and business property belonging to a permanent establishment abroad, provided an inheritance or similar tax has been paid in the country where such property is located.

Table A7. **Taxes levied on property** (continued)

Real estate	Net wealth	Inheritance and gifts
	Rates	
• Tax is levied at fixed rates ranging from 0.2% to 0.7% depending on the municipality. Real estate tax is deductible for the purposes of the corporate income tax.	• The national net wealth tax is levied at progressive rates and the threshold amounts depend on the classification of the taxpayer. In this case the classification is different from the classification for the purposes of the national income tax on gross income in that married persons assessed separately belong to class 2 rather than 1. For 2000 the rates are: Taxable net wealth (NOK) Class 0 and 1 — Class 2 — Rate (%) Up to 120 000 — Up to 150 000 — 0 120 000 — 540 000 — 150 000 – 580 000 — 0.2 Over 540 000 — Over 580 000 — 0.4 • The municipal net wealth tax is levied only on net wealth in excess of NOK 120 000 (non-residents are taxed on the entire amount of their net wealth, however). The rate is 0.7% in virtually all municipalities, although it may vary, in principle, between 0.4% and 0.7%. If the total of income tax and the net wealth tax exceed 80% of the taxpayer's ordinary income, the national net wealth tax and, if necessary, the municipal net wealth tax are reduced accordingly. The marginal tax rate on net wealth exceeding NOK 1 000 000, can never fall below 0.6%.	• On inheritance and gifts to children, foster children and parents the rates are: Taxable amount (NOK) — Rate (%) Up to 200 000 — 0 200 000 — 500 000 — 8 Over 500 000 — 20 • On inheritance and gifts to other persons the rates are: Taxable amount (NOK) — Rate (%) Up to 200 000 — 0 200 000 — 500 000 — 10 Over 500 000 — 30

Source: International Bureau of Fiscal Documentation (1999) and Ministry of Finance.

REFERENCES

Aarbu, K. O. (1997),
"Some aspects of tax reform and economic performance in Norway — main objectives and some empirical facts", Ministry of Finance, Tax Policy Department (mimeo).

Aarbu, K. O. and Th. O. Thoresen (1995),
"Skattereformen og progressivitet i skattesystemet", *Økonomisk Analyser*, 9/95.

Aarbu, K. O. and Th. O. Thoresen (1998),
The Norwegian tax reform; distributional effects and the high-income response, Economic Research Programme on Taxation, Rapport 51.

Agell, J., M. Persson and H. Sacklén (1999),
"Labour supply prediction when tax avoidance matters" in: Economic Research Programme on Taxation, *Skatteforum 1999*, Rapport 55, pp. 5-38.

Carlsen, F. (1999),
"Do local authorities set local fiscal variables to influence population flows?", in: Economic Research Programme on Taxation, *Skatteforum 1999*, Rapport 55, pp. 69-84.

Cnossen, S. (1997),
Dual Income taxation: The Nordic Experience, Research Memorandum Erasmus University 9710, Rotterdam.

Green Tax Commission (1996),
Policies for a Better Environment and high Employment — An English Summary, Oslo.

Hagen, K. P. and P. B. Sørensen (1998),
"Taxation of income for small business: taxation principles and tax reforms in the Nordic countries", in P.B. Sørensen (1998), *Tax policy in the Nordic Countries*, pp. 28-71, London.

Holmøy E. and H. Vennemo (1995),
"A general equilibrium assessment of a suggested reform in capital income taxation", *Journal of Policy Modeling*, Vol. 17, pp. 531-556.

Keen M. (1998)
"Vertical tax externalities in the theory of fiscal federalism", *IMF Staff Papers*, Vol. 45, No. 3, September, pp. 454-485.

Ministry of Finance (1992),
Norwegian Tax Reform 1992, Proposal to the Parliament, April 1991 (English summary, mimeo).

Ministry of Finance (1999),
Flatere skatt, NOU 1999:7.

Ministry of Labour and Government Administration (1996),
Et enklere og mer rettferdig inntektssystem for kommuner og fylkeskommuner (Simpler and fairer revenue system for municipalities and counties), NOU 1996:1.

OECD (1999),
Revenue Statistics 1965-1998, Paris.

Sollund, S. (1991),
"Norway: 1992 Tax Reform", *European Taxation*, September, pp. 272-278.

Sørensen, P.B. (1998),
"Recent innovations in Nordic tax policy: from the global to the dual income tax", in Sørensen P.B. (ed.), *Tax policy in the Nordic Countries*, pp. 1-27, London.

Youngman, J.M. and J.H. Malme (1994),
An international survey of taxes on land and buildings, Kluwer Law and Taxation Publishers.

ECONOMICS DEPARTMENT

WORKING PAPERS

243. *A Changing Financial Environment and the Implications for Monetary Policy*
(May 2000) Paul Mylonas, Sebastian Schich, Gert Wehinger

242. *Carbon Emission Leakages: a General Equilibrium View*
(May 2000) Jean-Marc Burniaux and Joaquim Oliveira Martins

241. *The Healthcare System in Hungary*
(April 2000) Eva Orosz and Andrew Burns

240. *Comparing Semi-Structural Methods to Estimate Unobserved Variables: the HPMV and Kalman Filters Approaches*
(April 2000) Laurence Boone

239. *New Issues in Public Debt Management: Government Surpluses in Several OECD Countries, the Common Currency in Europe and Rapidly Rising Debt in Japan*
(April 2000) Paul Mylonas, Sebastian Schich, Thorsteinn Thorgeirsson and Gert Wehinger

238. *Regulation, Industry Structure and Performance in the Electricity Supply Industry*
(April 2000) Faye Steiner

237. *Regulation, Market Structure and Performance in Telecommunications*
(April 2000) Olivier Boylaud and Giuseppe Nicoletti

236. *Predicting the Evolution and Effects of the Asia Crisis from the OECD Perspective*
(April 2000) Pete Richardson, Ignazio Visco and Claude Giorno

235. *Modelling Manufacturing Export Volumes Equations*
A System Estimation Approach
(April 2000) Keiko Murata, Dave Turner, Dave Rae and Laurence Le Fouler

234. *The Polish Tax Reform*
(March 2000) Patrick Lenain and Leszek Bartoszuk

233. *The Tax System in Mexico: a Need for Strengthening the Revenue Raising Capacity*
(March 2000) Thomas Dalsgaard

232. *EMU, the Euro and the European Policy Mix*
(February 2000) Jonathan Coppel, Martine Durand and Ignazio Visco

231. *The Tax System in Japan: a Need for Comprehensive Reform*
(February 2000) Thomas Dalsgaard and Masaaki Kawagoe

230. *The Size and Role of Automatic Fiscal Stabilisers in the 1990s and Beyond*
(January 2000) Paul van den Noord

229. *Enhancing Environmentally Sustainable Growth in Finland*
(January 2000) Ann Vourc'h and Miguel Jimenez

228. *Finance and Growth: Some Theoretical Considerations, and a Review of the Empirical Literature*
(January 2000) Kotaro Tsuru

227. *What the Yield Curves Say about Inflation: Does It Change over Time?*
(December 1999) Sebastian Schich

226. *Summary Indicators of Product Market Regulation with an Extension to Employment Protection Legislation*
(December 1999) Giuseppe Nicoletti, Stefano Scarpetta and Olivier Boylaud

225. Some Issues Related to the Equity-Efficiency Trade-Off in the Swedish Tax and Transfer System
(November 1999) Henning Strand

224. *The Economic Effects of Employment-Conditional Income Support Schemes for the Low-Paid: An Illustration from a CGE Model Applied to Four OECD Countries*
(October 1999) Andrea Bassanini, Jørn Henrik Rasmussen and Stefano Scarpetta

223. *The Use of Financial Market Indicators by Monetary Authorities*
(September 1999) Paul Mylonas and Sebastian Schich

222. *Tax Reform in Switzerland*
(August 1999) David Carey, Kathryn Gordon and Philippe Thalman

221. *Trends in Market Openness*
(August 1999) Jonathan Coppel and Martine Durand

220. *Technology Upgrading with Learning Cost: A Solution for Two "Productivity Puzzles"*
(July 1999) Sanghoon Ahn

219. *Testing for a Common OECD Phillips Curve*
(July 1999) Dave Turner and Elena Seghezza

218. *Sustainable Economic Growth: Natural Resources and the Environment*
(July 1999) Paul van den Noord and Ann Vourc'h

217. *Coping with Population Ageing in Australia*
(July 1999) David Carey

216. *Estimating Prudent Budgetary Margins for 11 EU Countries: A Simulated SVAR Model Approach*
(July 1999) Thomas Dalsgaard and Alain de Serres

215. *The Problems and Prospects Faced by Pay-As-You-Go Pension Systems: A Case Study of Greece*
(June 1999) Paul Mylonas and Christine de la Maisonneuve

214. *Greek Public Enterprises: Challenges for Reform*
(May 1999) Paul Mylonas and Isabelle Joumard

213. *The Levels and Cyclical Behaviour of Mark-Ups Across Countries and Market Structures*
(May 1999) Joaquim Oliveira Martins and Stefano Scarpetta

212. *Poverty Dynamics in Four OECD Countries*
(April 1999) Pablo Antolín, Thai-Thanh Dang and Howard Oxley
Assisted by Ross Finnie and Roger Sceviour