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**Pilot data collection on net social
benefits**

Contents

- Summary 2
- 1. Introduction 2
- 2. Data..... 3
- 3. Method..... 4
- 4. Results 5
 - 4.1 Benefits that are not included in the pilot project 6
- 5. Evaluation of results..... 6
 - 5.1. Comparison of ESSPROS core data and pilot data 6
 - 5.2. Correspondence between benefits and tax model information..... 8
- 6. Comparing with previous OECD reporting..... 9
- 7. Conclusion..... 10
- Annex 1: Method for calculating direct taxes on ESSPROS benefits..... 11
- Annex 2: More results..... 21
- Annex 3: List of social benefits that are included in ESSPROS core system, and whether they are subject to taxation or not 22

Summary

Comparison of social support across countries is an important topic, for instance from a policy-making perspective. However it is methodologically challenging to link tax burdens to specific transfers. This report presents a framework for how this can be done.

This report document the results of the pilot data collection on net social benefits, carried out by Statistics Norway from October 2007 to December 2008. The ESSPROS project was partially financed by a grant from EUROSTAT. After the contract period expired Statistics Norway received complementary data that completed the dataset and brought along more reliable results for two central items.

The main objective of this EUROSTAT pilot project was to evaluate if it is possible to obtain reliable estimates of the average itemised tax rate (AITR) and to obtain more comparable results across countries on social expenditures net of taxes. If possible, the average itemised social contribution rate (AISCR) on benefits should be estimated. Furthermore, if the results from the pilot project are reliable the method could be applied for both ESSPROS net social benefits and OECD reporting on net social expenditure. This depends whether the results in the other EU-countries are reliable.

We have used the LOTTE-Skatt model to calculate personal tax on received benefits. LOTTE-skatt is a micro-simulation model for direct taxes in Norway. It is not possible to define AISCR separately due to the Norwegian benefit and tax system. Therefore AISCR is included in the AITR calculation.

Some methods and criteria for quality checking of the results have been derived. The pilot project results have shown that it is possible to calculate reliable tax rate estimates for most of the ESSPROS items.

Some results concerning disability and survivors' pension in scheme 6 are not satisfactory due to different sources and classifications. Some minor benefits remain to be estimated.

1. Introduction

Social expenditures vary across the EU and the EEA countries. To what extent these expenditures are taxed differ, too. The objective is to improve the comparability of social expenditures between different countries. To obtain more comparable results, social expenditures net of taxes are the focus of a EUROSTAT pilot project. The European System of Integrated Social Protection Statistics (ESSPROS) is regulated by law according to EC regulation No. 458/2007, and Commission regulation 1322/2007 and 10/2008. Annex III to the EC regulation deals with pilot data collection. All EU and EEA members are obliged to carry out a pilot data collection of net social protection benefits.

In the ESSPROS core system, the aim is to calculate total expenditures on goods and services, related to social protection, and then deduct shares of the full cost that is met personally by the beneficiary. Using a selection based on the ESSPROS manual and codes in the National Account, each account that sorts under the social benefit schemes is allocated to the different ESSPROS functions. In the core system social benefits are divided into eight functions, sickness/health care, disability, old age, survivors, family/children, unemployment, housing and social exclusion not otherwise classified. Other classifications are mean tested or non-means-tested, cash or in kind. Moreover, the expenditures and receipts are divided into different social protection schemes. In Norway the schemes are classified as:

- (1) The National Insurance System
- (2) Family allowances and cash benefits for families with small children
- (3) The Norwegian Public Service Pension Scheme (SPK)
- (4) The Municipal Pension Fund (KLP)
- (5) Health Enterprises
- (6) Other Schemes (Governmental, Municipal and County (municipal) schemes)

The main aim of this project is to carry out a pilot method for Norway for social expenditures net of taxes. In addition, we will examine the possibilities of calculating the average tax rate for different types of social benefits that are included in the ESSPROS core system. We have identified the sources of the ESSPROS core system. The Norwegian Labour and Welfare Administration (NAV) is responsible for the majority of the disbursements of social expenditures. A main objective is to calculate an average itemised tax rate AITR for the receiver of social expenditures. To estimate this tax rate we have to identify taxes and tax credits for each person. Tax credits granted for the purpose of social protections are included in the calculations. Social benefits included in the ESSPROS core system are listed in Annex 3. The annex table shows which benefits are subject to taxation.

To carry out the project, we have used the micro-simulation model LOTTE-Skatt, which simulates taxes on income and wealth, and link detailed information of tax payers to expenditures from NAV and also other sources. For information about the LOTTE-Skatt model, see http://www.ssb.no/vis/english/research_and_analysis/models/lotte_en/lottedescript.html. The model is extensively used by Norwegian decision makers, showing revenue effects and distributional effects of tax changes.

2. Data

In the Norwegian pilot project we have collected data from different sources for the year 2005. Expenditures from the National Insurance System (scheme 1) and some expenditures in scheme 6 from accounts outside the central government fiscal accounts are used when detailed information is required (e.g. scheme 2, 3 and 5). All these expenditures are administered through the Norwegian Labour and Welfare Administration (NAV), into which the previous National Insurance Service, Norwegian Directorate of Labour and the social security offices are currently being reorganised. Within this original system there is a payment system for unemployment benefit and vocational occupational rehabilitation disbursements called ABETAL from which we have also collected information. In addition, we have used the End of The Year Certificate register (LTO register), an administrative register from the tax authorities. The LTO register is used to identify some of the benefits that have a unique code, for the purpose of providing information about specific benefits (See Table 1).

Norway is in the unique position to use information from different administrative registers; and in this case linking information on transfers to tax return data on the personal level.

In the micro simulation model used here, measures of income, among other things, are based on information from tax returns. However, the income classifications are too coarse in some cases to link them directly to the more atomized social benefits. Accordingly, we utilize the one-to-one connection between the tax assessments and the codes in the LTO register.

Our basic data are recorded from the same file that is sent from NAV to the tax administration. All taxable payments are selected from this file. Each record contains national identity number, internal account number, code in the LTO register and amount paid. The internal account number is linked to the corresponding chapter in the government fiscal accounts via internal catalogues and LTO codes, and then finally linked to the different ESSPROS items as given by the procedure in the core system.

We were not able to obtain figures from the Municipal Pension Fund (KLP), scheme 4, but expect that data will be delivered in the future, if the project is prolonged.

The remaining schemes, scheme 2 and scheme 5, are either not taxable or not relevant for our calculations.

Taxes are levied on most social benefits payments. However, some benefits are exempt from taxation. Annex 3 shows a detailed list of the benefits that are within the core system and whether they are subject to taxation or not.

3. Method

The tax return data for all residents of Norway are incorporated in the LOTTE model which is used to calculate average itemised tax rates (AITR). Average Itemised Tax Rate is the sum of individual calculated taxes paid on each benefit divided by the sum of the actual benefit. Average Itemised Social Contribution Rate (AISCR) is the sum of individual contribution to social contribution schemes as share of total level of social contribution. It is not possible to define an Average Itemised Social Contribution Rate, AISCR for the receiver of social expenditures based on Norwegian benefit schemes and the tax system. Thus, the AITRs include social contributions.

We use the data that is used as input to the model to split a person's income into four different types:

- employed labour income
- self-employed labour income
- transfers
- capital income

These types of income are taxed differently in Norway. We split the personal tax burden to relate an amount of total personal tax to each type of income. A personal tax rate for each type of income is created by dividing tax by income. A taxable benefit is classified as one of the above mentioned income categories. The benefit is taxed by using the personal tax rate for the corresponding income category. Next, the taxes and the benefits are aggregated over all resident citizens. A general tax ratio is calculated, by dividing aggregated tax by aggregated amount of the benefit. The method is described in detail in Annex 1.

Not all benefits are covered by this method. Some foreign citizens and deceased persons will have received benefits. They are not identified in the data of the LOTTE-Skatt model. Another problem is that, in some cases, we are unable to find a match between the benefit and type of income reported in the tax return. The matching tax rate is then not defined, and the personal tax on the benefit cannot be calculated. For these two cases, total amounts are aggregated for each benefit. We assume that the aggregated amount of a benefit for these two cases is taxed at the general tax rate found by applying the method presented in Annex 1. Where a considerable part of the total amount of a benefit is not covered by the method, we have to consider applying another taxation calculation method. This has been done for children's pension; the alternative method used here is also described in Annex 1. For more details on quality testing, see Section 5.2.

We have also considered another method of taxation; the revenue loss method. This method calculates the tax before and after elimination of a benefit. The difference in tax is the amount of tax related to this benefit. Because the Norwegian tax system is progressive, with the upper part of total income taxed at a higher rate than the tax rate on total income, the revenue loss method will give a higher estimate of tax relating to the benefit than our chosen method does. If we used the revenue loss method for each benefit and for all incomes, the sum of revenue losses would exceed actual total revenue. Our method avoids the progressivity problem, and we utilise the unique opportunity of linking individual benefits from different sources to individuals in the model.

4. Results

Table 1 shows the simulated tax rate (AITR) for each ESSPROS item based on the method presented in Section 3.

Table 1: Simulated tax rate (AITR) in per cent

Scheme	ESSPROS code	Source	In Norwegian	Simulated tax-rate
1	1111111	NAV	Sum Sykepenger 2650 70-75	24,3 %
6	1121111	NAV	Sum Pensjonstrygd sjømenn 2895 og Krigspensjoner, militær og sivil 0660 p 70 og 71	16,9 %
1	1121111	NAV	Sum Ufør 2655 p 70-76 minus 72	12,9 %
3	1121111	NAV	SPK Uførepensjon 2975 p 70	19,2 %
1	1121114	NAV/Abet	Economic integration of the handicapped yrkesrettet attføring 2543 p 70	19,2 %
1	1122111	NAV	Disability pension (mean tested) Uførhet særtillegg 2655 72	4,7 %
6	1131111	NAV	Old-age pension Sum pensjonstrygd sjømenn, alder	23,5 %
1	1131111	NAV	Old-age pension Kapittel 2670 p 70-72 Sum Alderdom	14,2 %
3	1131111	NAV	Old-age pension SPK Alder 2975 p 70	20,7 %
6	1131112	NAV	Anticiped old age pension AFP LO/NHO 0666	18,8 %
3	1131112	NAV	Anticiped old age pension SPK AFP 2975 p 70	21,1 %
1	1132111	NAV	Old-age pension (mean tested) Særtillegg Alder 2670 p 73	6,2 %
1	1142111	NAV	Survivors' pension Sum Etterlatte 2680 p 70 - 72	14,5 %
3	1142111	NAV	Survivors' pension SPK Etterlatt 2975 p 70	17,7 %
1	1151111	NAV	Income maintenance in the event of childbirth Kapittel 2530 p 70 - 73 Sum Fødsels og adopsjonspenger	22,8 %
1	1152114	NAV	Other cash periodic benefits Kapittel 2683 Enslige forsørgere	4,6 %
1	1161111	Abetal	Full unemployment benefit Kapittel 2541 p 70 Dagpenger	19,7 %
6	1161111	LTO	Full unemployment benefit Ventelønn LTO 142A og Dagpenger til fiskere og fangstmenn som erstatter næringsinntekt LTO 447	22,3 %
6	1181111	LTO	Income support Introduksjonsordningen LTO 232	13,0 %
1	1181121	LTO	Other cash lump sum benefits Statsgaranti for lønnskrav LTO 123	23,5 %
6	2310005	NAV	Rerouting Kapittel 1542 Tilskudd SPK	20,8 %

The results show that the estimated tax rate varies between 5 per cent and 24 per cent depending on benefit type.

From an overall perspective, these results appear to be reliable. The highest tax rate comprises benefits that are paid to people with relatively high income such as paid sick leave and supplementary pensions and similar benefits.

Lower tax rates are found for benefits received by persons we expect to be members of low income groups. For instance, the benefit “income support” is given to recently arrived refugees and immigrants while they complete an educational programme. All adult immigrants with a refugee background have the right and the duty to attend the full-time programme if they are in need of basic qualifications. These people are allowed to work while attending the programme.

The lowest simulated tax rates are found among persons who are receiving means-tested benefits such as single-parent benefits and some pensions. Old-age pensioners, the disabled with a level of disability above 66 per cent and people with low ability to pay taxes will be eligible by the tax limitation rule¹. These groups are expected to have low incomes.

¹ Tax limitation rule gives retired persons with medium or low income and wealth a tax reduction.

4.1 Benefits that are not included in the pilot project

Table 2 gives an overview of the schemes and benefits that are not part of this pilot project. About one half of the amount of paid sick leave is an estimate of employer's share of the expenditure (named AABS in the core system). There is no information available on this expenditure to allow a tax rate to be simulated, but other simulated tax rates may be discussed to determine a tax rate for this estimated figure. See more about paid sick leave in section 5.1. Tax rates for KLP payments are not simulated as mentioned in section 2. The scheme for dependency allowance paid in advance was made tax free as of 2003. The amount reported in the core system may be due to payments for previous years. The other benefits lacking tax-rate estimates consist of benefits of minor importance compared, both in terms of expenditures and number of people eligible to the support.

Table 2: Schemes and benefits without tax rate estimates. Expenditures in mill. NOK

Scheme	ESSPROS code		Source	In Norwegian	ESSPROS data
1	1111111	Paid sick leave	Statistics Norway	AABS Arbeidsgivers andel av sykepenger, beregnet	21364
6	1111121	Other cash lump sum benefits	NPE/SKD	Norsk pasientskadeerstatning NPE	437
4	1121111	Disability pension	Statistics Norway	KLP U	1603
1	1121123	Other cash lump sum benefits	NAV	Menerstatning ved yrkesskade	102
3	1121123	Other cash lump sum benefits	SPK	SPK Yrkesskadetrygd	57
6	1121123	Other cash lump sum benefits	Unknown	Pionerdykkerne i Nordsjøen	140
4	1131111	Old age pension	Statistics Norway	KLP A	2996
4	1131112	Anticipated old age pension	Statistics Norway	KLP A	301
6	1131113	Partial pension	Garantikassen for fisk	Fiskepensjon	110
4	1142111	Survivors pension	Statistics Norway	KLP E	105
6	1142111	Survivors pension	Pensjonstrygd for sjø	Etterlattep.	
1	1152114	Other cash periodic benefits	LTO 213	Forskuttering av underholdsbidrag	1150
3	1161113	Early retirement benefit for labour market reasons	SPK	SPK Førtdispensjon	366
6	1181121	Other cash lump sum benefits	NAV	Statens erstatningsansvar	218

5. Evaluation of results

To consider the quality of the simulated tax rate, we will look at two different aspects. Firstly, we will find out whether the sum of expenditures from data reported at each ESSPROS level is comparable with expenditure from data reported in the core system. Secondly, we had to understand to what extent the sum of reported benefits and corresponding persons are further identified in the tax model. There also needs to be a correspondence between income type declared in the tax return and the received benefits.

5.1. Comparison of ESSPROS core data and pilot data

Table 3 shows the total expenditures from NAV and other sources and the difference between these expenditures and the expenditures reported in the ESSPROS core system. Where we found the biggest discrepancies (1,96 bill. NOK) it was explained that NAV pays out the total pension and the employer receive the bill but is refunded part of the outlays. A further examination of the reasons for the discrepancies was beyond the scope for the project.

Table 3: ESSPROS core data and collected gross data, expenditures in mill. NOK

Scheme	ESSPROS code		Source	In Norwegian	ESSPROS	Total exp. NAV	Difference core system and NAV expenditure
1	1111111	Paid sick leave	NAV	Sum Sykepenger 2650 70-75	24 419	24 452	-33
6	1121111	Disability pension	NAV	Sum Pensjonstrygd sjømenn 2895 og Krigspensjoner, militær og sivil 0660 p 70 og 71	389	919	-530
1	1121111	Disability pension	NAV	Sum Ufør 2655 p 70-76 minus 72	43 805	43 793	12
3	1121111	Disability pension	NAV	SPK Uførepensjon 2975 p 70	2 491	2 496	-5
1	1121114	Economic integration of the handicapped	Abetal	Medisinsk rehabilitering og sum ytelser til yrkesrettet attføring 2543 p 70	18 463	18 456	7
1	1122111	Disability pension (mean tested)	NAV	Uførhet særtillegg 2655 72	1 391	1 355	36
6	1131111	Old-age pension	NAV	Sum pensjonstrygd sjømenn, alder	1 018	1 020	-2
1	1131111	Old-age pension	NAV	Kapittel 2670 p 70-72 Sum Alderdom	80 981	81 020	-39
3	1131111	Old-age pension	NAV	SPK Alder 2975 p 70	6 701	7 488	-787
6	1131112	Anticiped old age pension	NAV	AFP LO/NHO 0666	784	2 745	-1 961
3	1131112	Anticiped old age pension	NAV	SPK AFP 2975 p 70	1 767	942	825
1	1132111	Old-age pension (mean tested)	NAV	Særtillegg Alder 2670 p 73	4 991	4 951	40
1	1142111	Survivors' pension	NAV	Sum Etterlatte 2680 p 70 - 72	2 325	2 322	3
3	1142111	Survivors' pension	NAV	SPK Etterlatt 2975 p 70	2 328	1 621	707
1	1151111	Income maintenance in the event of childbirth	NAV	Kapittel 2530 p 70 - 73 Sum Fødsels og adopsjonspenger	9 481	9 490	-9
1	1152114	Other cash periodic benefits	NAV	Kapittel 2683 Enslige forsørgere	2 329	2 319	10
1	1161111	Full unemployment benefit	Abetal	Kapittel 2541 p 70 Dagpenger	9 611	9 587	24
6	1161111	Full unemployment benefit	LTO	Ventelønn LTO 142A og Dagpenger til fiskere og fangstmenn som erstatter næringsinntekt LTO 447	482	438	44
6	1181111	Income support	LTO	Introduksjonsordningen LTO 232	600	667	-67
1	1181121	Other cash lump sum benefits	LTO	Statsgaranti for lønnskrav LTO 123	198	397	-199
6	2310005	Rerouting	NAV	Kapittel 1542 Tilskudd SPK	2 680	853	1 827

We will only comment on those cases in Table 3 where there is a huge discrepancy in expenditures, or cases where weaknesses of our data need to be noted.

ESSPROS 1111111 Paid sick leave

The expenditures of this benefit in the core system are estimated as a sum of two expenditures. The first expenditure is the employer's estimated share of paid sick leave (named AABS in the core system), the other is sick leave payments from NAV. The employers continue to pay salary during the days of incapacity, and get the payment for sick leave refunded. In NAV it is possible to link the money refunded to the employer to individual national identity numbers. After the project period we received new data for Sick leave payments. This reduced the discrepancy to the figure reported in the core system to an acceptable level.

The AABS expenditure is an estimate related to the sick period for which the employers are responsible. The alternative methods for estimating a tax rate are either to use the average tax rate on salary² or the result from the above-mentioned operation. The difference in average tax rate is approximately 3 percent, and further discussion is needed to conclude which is the best approximation.

ESSPROS 1121111 Disability pension

From scheme 6 the civil and military pension is not directly comparable to what is reported in the core system. In the core system, the figures are collected from the account where the data are split between disability and survivors' pension, and the children's pension is distributed between the different pensions for both civil and military pensions. The data from NAV give figures for civil and military pensions, and they are not split between survivors' and disability pension. Due to lack of information we are not able to make a comparison.

² In 2005 the rate was computed to be 26.9 per cent. The rate was stable at 27 per cent in the years before 2005. Ref. EU Commission note "Split of personal income tax revenues in the new member states and Norway"

ESSPROS 1121111, 1131111 and 1142111 in Scheme 3: The Norwegian Public Service Pension Scheme (SPK)

The expenditures reported concerning disability, old age and survivors' pensions deviate from what is reported in the core system. We have no information as to why this is so. Early retirement for labour-market reasons implies a benefit, but no expenditures from SPK related to this benefit show up in the data file. These expenditures may possibly be registered on one of the other accounts reported concerning SPK.

ESSPROS 1131112 Early retirement scheme (Anticipated old-age pension)

The part of **Early retirement scheme** from the private sector (AFP LO/NHO) deviates considerably from what is reported in the core system. NAV pays all the benefits in the first place, but the employer refunds a smaller or greater part of it to NAV, depending on the age of the beneficiary. When simulating the tax rate, we have the opportunity to use the data for the whole population receiving anticipated old-age pension, independently of who finances the benefit. A deviation from the figures, net of refunding from employers, reported in the core system will then be acceptable.

ESSPROS 1151111 Income maintenance in the event of childbirth

The employer continues to pay salary after the start of the maternity leave and gets the money refunded later. As was the case with paid sick leave, NAV is able to link the figures for refunded amounts to each national identity number concerned. After the project period we received new data for Income maintenance in the event of childbirth. This reduced the discrepancies from the figures reported in the core system to an acceptable level.

ESSPROS 1181121 Other cash lump-sum benefits

A deviation is expected because the figures reported in the core system include refunded benefit payments, while our data consist of gross expenditures. The expenditure in the core system is NOK 30 million less than in the NAV data.

ESSPROS 2310005 Rerouting

Rerouting is required when a unit that is involved in a transaction does not appear in the actual accounting records due to administrative arrangements. This is the case for the members of The Norwegian Public Service Pension Scheme (SPK). The Government pays 2 per cent of the salary directly to SPK on behalf of the employees. In the account, this comes to NOK 2680 mill. In the file from NAV, the expenditures on this item only come to NOK 853 mill. NOK. The reason for the discrepancy may be difficult to discover. The chapter for this item in the state account is net accounted, and the detailed information on expenditure and receipts is unknown. The only information given in the account for SPK is the contribution divided between employer and employees.

To sum up, most of the expenditures that are identified in the NAV data are within an acceptable range from the figures reported in the core system. In a few cases with a discrepancy of a certain magnitude, this is due to gross versus net accounting. Only the figures concerning disability pension in scheme 6 are unsatisfactory because the information in the core system is not comparable to the data from NAV.

5.2. Correspondence between benefits and tax model information

The results estimated in this project can be evaluated by three different criteria beyond the comparison with the ESSPROS core data in Section 5.1. The results for these criteria are presented in Table 4. For more results, see Table A6 in Annex 2.

Table 4: Correspondence between benefits and tax model information

Scheme	ESSPROS code		Source	In Norwegian	Share of total amount of benefit		
					Benefit included	Tax rate undefined	Persons not identified
1	1111111	Paid sick leave	NAV	Sum Sykepenger 2650 70-75	0,9852	0,0013	0,0135
6	1121111	Disability pension	NAV	Sum Pensjonstrygd sjømenn 2895 og Krigspensjoner, militær og sivil 0660 p 70 og 71	0,7921	0,0004	0,2075
1	1121111	Disability pension	NAV	Sum Ufør 2655 p 70-76 minus 72	0,9679	0,0006	0,0315
3	1121111	Disability pension	NAV	SPK Uførepensjon 2975 p 70	0,9752	0,0009	0,0239
1	1121114	Economic integration of the handicapped	NAV/Abet	Medisinsk rehabilitering og sum ytelser til yrkesrettet attføring 2543 p 70	0,9900	0,0007	0,0093
1	1122111	Disability pension (mean tested)	NAV	Uføret særtilllegg 2655 72	0,9587	0,0007	0,0406
6	1131111	Old-age pension	NAV	Sum pensjonstrygd sjømenn, alder	0,9107	0,0013	0,0879
1	1131111	Old-age pension	NAV	Kapittel 2670 p 70-72 Sum Alderdom	0,9107	0,0013	0,0879
3	1131111	Old-age pension	NAV	SPK Alder 2975 p 70	0,9630	0,0003	0,0367
6	1131112	Anticiped old age pension	NAV	AFP LO/NHO 0666	0,9856	0,0005	0,0138
3	1131112	Anticiped old age pension	NAV	SPK AFP 2975 p 70	0,9843	0,0007	0,0151
1	1132111	Old-age pension (mean tested)	NAV	Særtilllegg Alder 2670 p 73	0,9244	0,0001	0,0755
1	1142111	Survivors' pension	NAV	Sum Etterlatte 2680 p 70 - 72	0,9244	0,0001	0,0755
3	1142111	Survivors' pension	NAV	SPK Etterlatte 2975 p 70	0,9340	0,0311	0,0349
1	1151111	Income maintenance in the event of childbirth	NAV	Kapittel 2530 p 70 - 73 Sum Fødsels og adopsjonspenger	0,9927	0,0007	0,0066
1	1152114	Other cash periodic benefits	NAV	Kapittel 2683 Enslige forsørgere	0,9962	0,0018	0,0020
1	1161111	Full unemployment benefit	Abetal	Kapittel 2541 p 70 Dagpenger	0,9899	0,0012	0,0089
6	1161111	Full unemployment benefit	LTO	Ventelønn LTO 142A og Dagpenger til fiskere og fangstmenn som erstatter næringsinntekt LTO 447	0,9944	0,0012	0,0044
6	1181111	Income support	LTO	Introduksjonsordningen LTO 232	0,9936	0,0009	0,0055
1	1181121	Other cash lump sum benefits	LTO	Statsgaranti for lønnskrav LTO 123	0,9352	0,0011	0,0637
6	2310005	Rerouting	NAV	Kapittel 1542 Tilskudd SPK	0,9752	0,0009	0,0239

The first criterion is “Share of total amount of benefit included in tax simulation”. This criterion measures to what extent missing values prevail due to problems of matching expenditures from different sources. All results are represented by more than 90 per cent of totals, except for ESSPROS code 1121111 Disability pension, scheme 6. This means that more than 90 per cent of the amounts reported by NAV are further identified in the tax model. The disability pension in scheme 6 consists of the sum of payments from the Pension Insurance Institution for Seamen and War pensions - military and civil. This result is represented by 79 per cent of the total amount.

The second criterion is “Share of total amount of benefit with undefined tax rate”. In some cases we identify the person who has received the benefit from NAV in the tax model, but no income type corresponding to the benefit is reported in the tax return. The shares of benefit amounts for these persons are rather low.

The third criterion is “Share of total amount of benefit when persons are not identified”. The data file from NAV consists of identification number and also some d-numbers, which are given to persons who are within the National Insurance system or receive benefits, temporarily. These persons are not included in the LOTTE model, in which the population is persons domiciled in Norway on 31 December 2005. The data file from NAV consists of 39 779 beneficiaries with d-numbers, out of a total of 5 753 807 observations, i.e. 0.69 per cent of the totals. For all types of benefit we find that the share indicating a mismatch between d-number and population in the model is less than 10 per cent, except in the case of the Pension Insurance Institution for Seamen and War pensions - military and civil. For this special scheme, the mismatch comprises 3017 persons who are not identified. Persons who emigrate or die during the year are also included in this unidentified group.

To conclude, we find that results for the three criteria are acceptable.

6. Comparing with previous OECD reporting

Statistics Norway, in co-operation with the Ministry of Finance, has estimated average tax rates and reported them to OECD for several years. For this OECD calculation, the starting point is to find total household income tax and total household income (tax-free transfers not included) for all households. A general tax rate for the household is calculated by dividing joint tax by joint taxable income. Each

taxable transfer for the household is taxed by using the general tax rate of the household. Then we aggregate the taxes for all taxable transfers over all households to get the total tax on each transfer. The LOTTE-Skatt micro simulation model has been used to calculate the figures reported to OECD (the OECD Net Social Expenditure Questionnaire).

The classification of income and taxes of the OECD method is much coarser than the atomized classification that is used in the pilot project.

One problem of this OECD approach is that the results are related to each household and not each person, as in the pilot project. A household may include several persons who may have different income types (wage, transfer, capital and self-employment income). Another problem is that transfers from The Norwegian Labour and Welfare Administration may consist of different types of payments, while it is the main disbursement that determines income type. Estimation at household level implies much more imprecise results, and estimated results for subcategories will also be imprecise, and sometimes impossible to establish.

Comparison of the results from the two approaches shows that the OECD results cover a minor part of the expenditures disbursed to beneficiaries, and do not manage to divide information between subcategories.

Some of the averaged itemised tax rates (AITR) on main benefits in the OECD calculation are close to the results from the pilot data collection. However, in the pilot data collection the more detailed information shows that there may be great variation in the different AITRs within one ESSPROS item/function and among different schemes within the same item.

If the results from the pilot project are satisfactory across countries, we expect this to be a permanent arrangement, and to be adopted as a part of the regulation. The net social benefits method based on detailed data at individual level may then replace the method used when reporting results to OECD.

7. Conclusion

In this pilot project for Norway, we have made the first attempts to estimate tax rates related to different benefits based on individual estimates of tax rates. As the basis for the estimations we have collected data from different sources. Because important data were received only shortly before the project was due to be completed, the time available for analysing the data has been limited.

The pilot project has shown that it is possible to calculate a reliable tax rate for most of the ESSPROS items. The results concerning disability and survivors' pension in scheme 6 are not satisfactory due to different sources and classifications. Some minor benefits remain to be estimated.

It will probably be possible to obtain more information on the remaining schemes and benefits that are included in the core system. The project has also shown that it is possible to replace the calculation for OECD Net Social Expenditure Questionnaire with more reliable results, and that it is possible to report in more detail than before.

Annex 1: Method for calculating direct taxes on ESSPROS benefits

A1. Introduction

This annex describes a method for calculating direct taxes on each taxable benefit. The main objective is to calculate a personal average tax rate for different types of income, which can be applied to different benefit payments. Thus the benefit has to be related to a type of income. This defines which tax rate is used. A person's tax burden for a specific benefit is then calculated by multiplying the amount by the corresponding personal tax rate.

The personal income tax system in Norway uses two concepts of income as a basis for taxation: *personal income* (called gross income in this annex) and *ordinary income*. Gross income is defined as income from labour and pensions with no deductions. Ordinary income includes all types of taxable income from labour, transfers, business and capital. Certain costs and expenses, including interest paid on debt, are deductible in the calculation of ordinary income.

Central government income surtax and first pillar³ social security contributions (SSC) are levied on gross income. The surtax is levied according to a progressive rate schedule. In 2005 the surtax rate varied between 0 and 15.5 per cent. The SSC are levied at flat rates (except for an allowance if incomes are small). In 2005 the rates vary between 10.7 per cent on most self-employed income, 7.8 per cent on labour income and 3 per cent on transfer income.

Tax on ordinary income is levied at a flat 28 per cent rate.

The LOTTE-Skatt model is used to calculate personal income taxes. The data base of LOTTE-Skatt contains information on all tax returns from persons in Norway. Usually, a taxable benefit is taxed in the same way as the income source type 'Transfers and pensions'. Other possible income source types are 'Employed labour', 'Self-employed labour' and 'Capital'. This document describes how total individual income is divided into different types of income and how direct taxes are also divided into the same income categories. For each person, an average tax rate is allocated to each type of income. These personal tax rates are used to calculate total tax paid on taxable benefits.

The amount of a taxable benefit cannot be directly extracted from the person's tax return scheme. We use the LTO register to identify the amount of a specific taxable benefit for each person. A specific taxable benefit is taxed in the same way as are incomes of the corresponding type of income, by using the corresponding personal tax rate.

A2. Splitting of income and taxes

A2.1 Definition of income

Table A1 shows the definition of gross income based on the income variables included in the LOTTE-Skatt model.

³First pillar refer to the basic social security scheme

Ideally dividends should be divided between self-employed income (or labour income) and capital income, as some active owners distribute dividends instead of paying themselves wages (due to a higher tax rate on labour income). However, in our calculations, dividends are regarded solely as capital income.

Furthermore, *imputed* income from owner-occupied housing (non-commercial) is added to capital income.

Second and third pillar pension benefits⁴ are grouped in the tax return, and are not separable. Both are allocated to transfer income together with first pillar pension benefits.

Table A1 Gross income allocated to different income sources

Item ¹	Income	Factor
<i>W – Gross employment income</i>		
2.1	Wages, fringe benefits etc.	1
2.4	Children’s wage income ²	1
<i>O – Gross self-employment income</i>		
2.1.7	Unemployment benefits to self-employed	1
2.7.1-2.7.8	Business income from self-employment	1
2.7.10	Sick pay etc. for self-employed	1
<i>R – Gross capital income</i>		
2.8.6	Imputed income from owner-occupied housing (non-commercial)	1
3.1.9	Other capital income ³	1
<i>P – Gross transfer income</i>		
2.2.1	State pension benefits	1
2.2.2	Other pension benefits: Occupational pensions, private pensions etc.	1
2.2.4	Spouse’s supplement to old-age pensions	1
2.6.5	Alimonies and other transfers not connected with employment	1
	Other tax free incomes, e.g. children’s benefits, social benefits etc.	1
(not included in tax rate calculations)		

1. Item in the tax return for 2005. The item numbers may vary between years.

2. When the child is taxed together with the parent.

3. Includes all capital income, including dividends, capital gains and interests.

A2.2 Personal income tax before tax deductions

Splitting of ordinary income and income deductions

Tables A2 to A5 show how allowances and deductions are allocated to the different income sources. Except for the standard allowance, the basic allowance and the allowance for gifts to voluntary organisations, all allowances are entirely allocated to one income source.

The basic allowance is calculated as a certain percentage of wage and pension income with a lower and upper limit. In our calculations, the basic allowance is divided according to the size of wage and pension income, respectively, for each individual according to the following formulas (item numbers in the tax return of 2005):

$$\text{Labour: } w_m = \frac{2.1.6}{2.1.6 + 2.2.3 + 2.6.1 + 2.6.2}$$

⁴ Second pillar refer to occupational pension scheme. Third pillar refer to private individual pension saving

$$\text{Pension: } p_m = \frac{2.2.3 + 2.6.1 + 2.6.2}{2.1.6 + 2.2.3 + 2.6.1 + 2.6.2}$$

Some basic allowances are reported separately for spouse supplementary pensions, child alimonies and pensions (item numbers 3.2.4 and 3.2.6). These are allocated to transfer income.

The allowance for gifts to voluntary organisations (incl. some other general allowances) is a general allowance and as such is divided among all income sources. The split is done according to the following formulas:

$$\text{Labour: } w_g = \frac{\text{Gross wage}(2.1.6 + 2.4.1)}{\text{Gross income}(3.1.10)}$$

Self-employment:

$$o_g = \frac{\text{Gross selfempl.income}(2.1.7 + 2.7.1 + 2.7.2 + 2.7.3 + 2.7.4 + 2.7.5)}{\text{Gross income}(3.1.10)}$$

$$\text{Capital: } r_g = \frac{\text{Gross capital income}(2.8.6 + 3.1.9)}{\text{Gross income}(3.1.10)}$$

Transfer:

$$p_g = \frac{\text{Gross transfer income}(2.2.1 + 2.2.2 + 2.2.4 + 2.6.4)}{\text{Gross income}(3.1.10)}$$

This gives the following allocation of allowances (except the standard allowance):

Table A2 Allowances allocated to labour income

Item	Text	Factor
3.2.1	Basic allowance (from 2.1.6)	w_m
3.2.2	Actual costs	1
3.2.5	Children's wage income (reported in 2.4.1)	1
3.2.7	Costs for lodging etc.	1
3.2.8-3.2.9	Travel expenses	1
3.2.10	Parent allowance	1
3.2.11	Labour union fees	1
3.2.12	Occupational pensions savings	1
3.2.13	Seaman's allowance	1
3.3.7	Gifts to voluntary organisations	w_g
= DW (allowances allocated to labour income excl. standard allowance)		

Table A3 Allowances allocated to income from self-employment

Item	Text	Factor
3.2.14	Fisherman's allowance	1
3.2.15	Farmer's allowance	1
3.2.16	Allowance for reindeer owners	1
3.2.17	Allowance for self-employed in stone industry	1
3.2.18	Pension savings for self-employed	1
3.2.19	Business loss this year	1
3.3.7	Gifts to voluntary organisations	o_g
3.3.9	Carried forward losses from previous years (mostly connected with self-employment, lack of information)	1
= DO (allowances allocated to self-employment income, excl. standard allowance)		

Table A4 Allowances allocated to capital income

Item	Text	Factor
3.3.1-3.3.2	Interest payment on loans	1
3.3.4	Part of deductible expenses in housing cooperatives	1
3.3.6	Deductible capital losses on sale of housing, immovable property etc.	1
3.3.7	Gifts to voluntary organisations	r_g
3.3.8	Deductible capital losses on sale of shares etc.	1
3.3.10	Losses from letting out real estate (non-commercial)	1
= DR (allowances allocated to capital income, excl. standard allowance)		

Table A5 Allowances allocated to transfer income

Item	Text	Factor
3.2.1	Basic allowance (from 2.6.1 and 2.6.3)	p_m
3.2.4	Basic allowance from spouse supplementary pensions	1
3.2.6	Basic allowance from child alimonies and pensions	1
3.3.3	Alimonies	1
3.3.5	Individual pension plans (IPA)	1
3.5	Old-age and disability allowance etc. (mostly connected with transfer income, lack of information)	1
3.3.7	Gifts to voluntary organisations	p_g
= DP (allowances allocated to transfer income, excl. standard allowance)		

Based on the distribution of ordinary income and allowances in tables A2 to A5, it is possible to allocate the standard allowance to the different income sources. Let I be ordinary income excl. the standard allowance:

$$I = (W - DW) + (O - DO) + (R - DR) + (P - DP)$$

Let IP be defined as I , except that net income from a specific type of income is always positive.

$$IP = \max(0, W - DW) + \max(0, O - DO) + \max(0, R - DR) + \max(0, P - DP)$$

The following formulas can then be used to allocate the standard allowance and to divide ordinary income into the different income sources:

$$\text{Labour: } w = \frac{\max(0, W - DW)}{IP}$$

$$\text{Self-employed: } o = \frac{\max(0, O - DO)}{IP}$$

$$\text{Capital: } r = \frac{\max(0, R - DR)}{IP}$$

$$\text{Transfer: } p = \frac{\max(0, P - DP)}{IP}$$

If PIT_i^O is the personal income tax on ordinary income for individual i , the following formulas give the total tax on ordinary income from the different income sources:

$$\text{Labour: } PIT^O(\text{labour}) = \sum_i w_i \cdot PIT_i^O$$

$$\text{Self-employed: } PIT^O(\text{self-employed}) = \sum_i o_i \cdot PIT_i^O$$

$$\text{Capital: } PIT^O(\text{capital}) = \sum_i r_i \cdot PIT_i^O$$

$$\text{Transfer: } PIT^O(\text{transfer}) = \sum_i p_i \cdot PIT_i^O$$

Splitting of tax on personal income (gross income)

This section outlines the method for dividing SSC and the central government income surtax between the relevant income sources (labour, self-employed and transfer). The tax base for these taxes is total taxable gross labour, self-employed and transfer income.

The labour and transfer component in gross income is easily identified in the LOTTE-Skatt model. Self-employed income is slightly trickier to identify because of some special limitation rules for self-employed income included in the gross income tax base. Actual self-employed income might therefore be higher than taxable self-employed income included in the gross income tax base. However, by linking the LOTTE-Skatt model to total gross income reported in the tax statistics, it is possible to identify the self-employed income in the tax base (by subtracting labour and transfer income from total gross income). Let GI denote total gross income from the tax statistics. Then the shares for splitting gross income can be written as:

$$\text{Labour: } w_i^{GI} = \frac{W_i}{GI_i}$$

$$\text{Self-employed: } o_i^{GI} = \frac{GI_i - W_i - P_i}{GI_i}$$

$$\text{Transfer: } p_i^{GI} = \frac{P_i}{GI_i}$$

Social Security Contributions (first pillar)

Total first pillar social security contributions are easily identified in the LOTTE-Skatt model (as different rates apply to different income sources). The SSC are thus extracted directly from LOTTE-Skatt. Let $PIT_i^{SSC}(X)$ denote first pillar social security contributions from individual i from income source X . Then the total SSC based on different income sources can be written as:

$$\text{Labour: } PIT^{SSC}(\text{labour}) = \sum_i PIT_i^{SSC}(\text{labour})$$

$$\text{Self-employed: } PIT^{SSC}(\text{self} - \text{employed}) = \sum_i PIT_i^{SSC}(\text{self} - \text{employed})$$

$$\text{Transfer: } PIT^{SSC}(\text{transfer}) = \sum_i PIT_i^{SSC}(\text{transfer})$$

Central government income surtax

Let PIT^S denote total central government surtax on all income sources. Then the following formulas illustrate how the surtax is divided among the different income sources:

$$\text{Labour: } PIT^S(\text{labour}) = \sum_i w_i^{GI} \cdot PIT_i^S$$

$$\text{Self-employed: } PIT^S(\text{self} - \text{employed}) = \sum_i o_i^{GI} \cdot PIT_i^S$$

$$\text{Transfer: } PIT^S(\text{transfer}) = \sum_i p_i^{GI} \cdot PIT_i^S$$

Net wealth tax

The net wealth tax, WT_i , is not included in the personal income taxes for this purpose because wealth is not defined as an income. Wealth has an indirect influence on tax credits such as the tax shelter rule; see next section.

A2.3 Allocation of tax credits

So far, income, allowances and personal income taxes prior to any tax credits have been allocated to the different income sources. This section briefly outlines the method used to allocate tax credits to the different income sources. The following tax credits are included in the LOTTE-Skatt model:

- *Tax credit for the Finnmark and Northern Troms Counties*: This tax credit is actually an allowance in ordinary income, but is treated as a tax credit in the tax statistics and in the LOTTE-Skatt model.
- *Tax credit for home savings scheme for youths (BSU)*: A wastable tax credit.
- *The tax shelter rule for pensioners etc.*: Tax payers under this rule (pensioners, some single parents etc.) are taxed under a special tax limitation rule. The value of the tax limitation (the difference between ordinary tax and tax with the limitation rule) is reported as a tax credit in the tax statistics and the LOTTE-Skatt model.
- *Tax credit to prevent double taxation of dividends*: The tax credit equals the corporate tax on distributed dividends. Since the corporate tax rate equals the tax rate on ordinary income (28 per cent), the result is no double taxation of dividends.

Tax credit for the Finnmark and Northern Troms counties

In the LOTTE-Skatt model, the tax credit is split between ordinary income and central government income surtax. The shares used to split ordinary income and surtax in Section A2.2 are used to split the tax credit allocated to ordinary income and surtax, respectively.

Tax credit for home savings scheme for youths (BSU)

The tax credit is not allocated to any income. The savings are not defined as an income.

The tax shelter rule for pensioners etc.

The tax shelter rule reduces the tax on ordinary income and the first pillar SSC (from all incomes). The following formulas are used to split the tax credit:

$$\text{Labour: } w_i^{SR} = \frac{PIT_i^{SSC}(\text{labour}) + PIT_i^O(\text{labour})}{PIT_i^{SSC} + PIT_i^O}$$

$$\text{Self-employed: } o_i^{SR} = \frac{PIT_i^{SSC}(\text{self} - \text{employed}) + PIT_i^O(\text{self} - \text{employed})}{PIT_i^{SSC} + PIT_i^O}$$

$$\text{Capital: } r_i^{SR} = \frac{PIT_i^O(\text{capital})}{PIT_i^{SSC} + PIT_i^O}$$

$$\text{Transfer: } p_i^{SR} = \frac{PIT_i^{SSC}(\text{transfer}) + PIT_i^O(\text{transfer})}{PIT_i^{SSC} + PIT_i^O}$$

Tax credit to prevent double taxation of distributed dividends

Allocated to capital income (all dividends are allocated to capital income).

A2.4 Net tax

We need to allocate income, allowances and tax credits to the different income sources. In this section, total net tax is allocated to these incomes.

Net tax on labour income

$$PIT_i^O(\text{labour})$$

$$+ PIT_i^{SSC}(\text{labour})$$

$$\begin{aligned}
&+ \quad PIT_i^S(\textit{labour}) \\
&- \quad w_i \bullet \textit{Tax credit for Finnmark and Northern Troms (ordinary income)} \\
&- \quad w_i^{GI} \bullet \textit{Tax credit for Finnmark and Northern Troms (surtax)} \\
&- \quad w_i^{SR} \bullet \textit{Tax shelter rule} \\
\hline
&= \quad PIT_i(\textit{labour}) \textit{ Net tax allocated to labour income} \\
\hline
\end{aligned}$$

Total net personal income tax on labour income:

$$PIT(\textit{labour}) = \sum_i PIT_i(\textit{labour})$$

Net tax on self-employed income

$$\begin{aligned}
&PIT_i^O(\textit{self} - \textit{employed}) \\
&+ \quad PIT_i^{SSC}(\textit{self} - \textit{employed}) \\
&+ \quad PIT_i^S(\textit{self} - \textit{employed}) \\
&- \quad o_i \bullet \textit{Tax credit for Finnmark and Northern Troms (ordinary income)} \\
&- \quad o_i^{GI} \bullet \textit{Tax credit for Finnmark and Northern Troms (surtax)} \\
&- \quad o_i^{SR} \bullet \textit{Tax shelter rule} \\
\hline
&= \quad PIT_i(\textit{self} - \textit{employed}) \textit{ Net tax allocated to self-employed income} \\
\hline
\end{aligned}$$

Total net personal income tax on self-employed income:

$$PIT(\textit{self} - \textit{employed}) = \sum_i PIT_i(\textit{self} - \textit{employed})$$

Net tax on capital income

$$\begin{aligned}
&PIT_i^O(\textit{capital}) \\
&- \quad \textit{Tax credit to prevent double taxation on dividends} \\
&- \quad r_i \bullet \textit{Tax credit for Finnmark and Northern Troms (ordinary income)} \\
&- \quad r_i^{SR} \bullet \textit{Tax shelter rule} \\
\hline
&= \quad PIT_i(\textit{capital}) \textit{ Net tax allocated to capital income} \\
\hline
\end{aligned}$$

Total net personal income tax on capital income:

$$PIT(\textit{capital}) = \sum_i PIT_i(\textit{capital})$$

Net tax on transfer income

$$\begin{aligned}
&PIT_i^O(\textit{transfer}) \\
&+ \quad PIT_i^{SSC}(\textit{transfer}) \\
&+ \quad PIT_i^S(\textit{transfer}) \\
&- \quad p_i \bullet \textit{Tax credit for Finnmark and Northern Troms (ordinary income)} \\
&- \quad p_i^{GI} \bullet \textit{Tax credit for Finnmark and Northern Troms (surtax)} \\
&- \quad p_i^{SR} \bullet \textit{Tax shelter rule}
\end{aligned}$$

$$= \text{PIT}_i(\text{transfer}) \text{ Net tax allocated to transfer income}$$

Total net personal income tax on transfer income:

$$\text{PIT}(\text{transfer}) = \sum_i \text{PIT}_i(\text{transfer})$$

A2.5 Average effective tax rates (AETR)

Labour:

$$\text{AETR}(\text{labour}) = \frac{\text{PIT}(\text{labour})}{W}$$

Self-employed:

$$\text{AETR}(\text{self} - \text{employed}) = \frac{\text{PIT}(\text{self} - \text{employed})}{O}$$

Capital:

$$\text{AETR}(\text{capital}) = \frac{\text{PIT}(\text{capital})}{R}$$

Transfer:

$$\text{AETR}(\text{transfer}) = \frac{\text{PIT}(\text{transfer})}{P}$$

A2.6 Personal Average Tax Rates (PATR)

For an individual i , Personal Average Tax Rates can be calculated for each different income source. The PATR is defined by the formulas below.

Labour:

$$\text{PATR}_i(\text{labour}) = \frac{\text{PIT}_i(\text{labour})}{W_i}$$

Self-employed:

$$\text{PATR}_i(\text{self} - \text{employed}) = \frac{\text{PIT}_i(\text{self} - \text{employed})}{O_i}$$

Capital:

$$\text{PATR}_i(\text{capital}) = \frac{\text{PIT}_i(\text{capital})}{R_i}$$

Transfer:

$$\text{PATR}_i(\text{transfer}) = \frac{\text{PIT}_i(\text{transfer})}{P_i}$$

If an income source is equal to zero, then the corresponding tax rate is not defined. The rates must be in the interval $[0,1]$. If the tax corresponding to a specific income source is negative, then the tax rate is set to zero. If the tax exceeds the income, then the tax rate is set to 1. The argument for doing this is that the tax amount cannot be higher than the benefit amount received (tax rate greater than 1). We multiply the tax rate by the amount of the benefit. If you receive a benefit, you do not receive an additional tax allowance (tax rate negative).

In some situations the tax related to a specific income may be higher than the income. One example is the use of tax class 2 for married couples. A married couple can be taxed together (tax class 2), if this benefits the couple. Otherwise they are taxed separately using tax class 1 (this is the commonest situation). Tax class 2 is used when one spouse has no or little income. Central government income

surtax and tax on ordinary income is covered by the tax class 2 rule. The taxes for the couple are distributed to each person by applying the person's share of gross income. This may imply that the spouse with less income is assigned tax on ordinary income that may exceed the gross income for some specific type of income. This happens if the ordinary income is zero or negative and the ordinary income for the other spouse is large.

The tax related to capital income can be negative if a person has received dividends combined with capital deductions to ordinary income. Then the net ordinary income from capital may be zero. If the positive ordinary income is related to labour income, then the tax on ordinary income is solely related to labour income. Thus, zero tax is related to capital income, while the person still gets a tax deduction for the distributed dividends.

The tax share related to business income can be greater than 1. If an enterprise corporate is under the dual tax system, personal income is generated for active owners based on the result of the company. The result is split into two parts, labour and capital. The labour part is distributed to the active owners and generates personal income for the next year. This personal income is not a part of business income but creates tax that is related to business activities.

A2.7 Calculating Average Itemised Tax Rate (AITR)

If we have the information that an individual has received a cash benefit, the personal average effective tax rates (PATR) are used. A specific benefit corresponds to one type of income source. The tax paid on a specific benefit for each individual is calculated by using the corresponding PATR multiplied by the cash amount received. The average itemised tax rate (AITR) for a given benefit is calculated by aggregating over individuals. The benefit amounts $I_i(\text{benefit})$ for person i and the personal taxes paid on the benefit are aggregated.

$$AITR(\text{benefit}) = \frac{\sum_i I_i(\text{benefit}) * PATR_i(\text{benefit})}{\sum_i I_i(\text{benefit})}$$

Individuals with no defined tax rate are excluded from the calculation of AITR.

Then the effective tax rate (AETR) is used as a substitute for AITR. The use of tax rate depends on what type of income source each specific benefit is related to.

A3. Calculation of tax on child's pension for children under 17 years of age

Children's pension is identified by the child's personal identification number. For children under 17 years, the transfer is given to the child's guardian or surviving parent. This transfer is given in tax return item 2.6.3 and used as the basis of tax simulation.

It is not possible to identify each guardian or surviving parent for all children. Therefore we calculate an average tax rate among all persons registered with an amount under tax return item 2.6.3. This average tax rate is used to simulate tax on child's pension for children under 17 years.

First we calculate the tax related to tax return item 2.6.3 for each person. Then we aggregate the taxes and amounts given in item 2.6.3 over all persons. The tax rate is calculated as aggregated tax divided by aggregated income from item 2.6.3.

For each surviving parent or child's guardian we have to estimate personal tax related to child's pension. A standard deduction is made for this income, given in tax return item 3.2.6. Net ordinary income (item 3.4) is the tax base.

The tax share of net ordinary income related to child's pension is
($\langle \text{item 2.6.3} \rangle - \langle \text{item 3.2.6} \rangle$) / $\langle \text{item 3.4} \rangle$.

This share is applied to the personal tax on ordinary income minus the following tax credits:

- Tax credit for Finnmark and Northern Troms Counties
- The tax shelter rule for pensioners

The next step is to aggregate the taxes related to child's pension and the amounts given in item 2.6.3 over all persons in Norway. The average tax rate is calculated by using the aggregates.

Children aged 17 years or older submit their own tax return and child's pension is taxed by the method described in Section 3.

Annex 2: More results

Table A6 may be considered in three parts. The first part contains total expenditure by NAV, simulated net expenditure, simulated tax and simulated tax rate. Simulated tax is calculated by using the tax rate on the total expenditure from part two (the grey part). Simulated net expenditure is total expenditure minus simulated tax.

The second part (shaded) contains the number of observations and total amount of disbursements that were properly taxed by the method. Number of observations and total amount of disbursements that were not taxed due to indefinite personal tax rate are also listed. This occurs when there is no correspondence between income reported on the tax return and the benefit.

The third part gives the share of total amounts for beneficiaries with undefined tax rate, and share of total amount where the person is not identified in the model.

This information is crucial for evaluating the robustness of the results; see Section 5.2.

Table A6: More results

Scheme	ESSPROS code	Total expenditure NAV	Simulated net expenditure	Simulated tax	Simulated tax rate	Number of observations before tax calculation	Number of observations with indefinite tax rate	Total amount with indefinite tax rate	Number of taxed observations	Total amount of taxable benefits	Tax	Average tax rate on benefit	Share of total amount of benefit		
													Benefit included	Tax rate undefined	Persons not identified
1	1111111	24 451 604 846	18 515 203 679	5 936 401 167	24.3 %	1 066 930	3 726	31 706 044	1 051 295	24 090 311 031	5 848 886 233	24.3 %	0.98522	0.00130	0.01348
6	1121111	919 063 786	763 372 897	155 690 889	16.9 %	17 900	9	329 712	14 476	728 017 613	123 104 648	16.9 %	0.79213	0.00036	0.20751
1	1121111	43 792 693 429	38 148 708 881	5 643 984 548	12.9 %	1 019 559	771	26 662 315	976 607	42 385 915 127	5 485 322 989	12.9 %	0.96788	0.00061	0.03151
3	1121111	2 496 310 760	2 015 829 721	480 481 039	19.2 %	46 016	47	2 352 973	44 738	2 434 382 810	488 561 367	19.2 %	0.97519	0.00094	0.02387
1	1121114	18 456 344 300	14 904 613 314	3 551 730 986	19.2 %	243 711	219	12 635 213	241 018	18 271 796 545	3 515 352 090	19.2 %	0.99000	0.00068	0.00931
1	1122111	1 355 035 894	1 290 673 973	64 361 921	4.7 %	60 578	52	931 230	60 578	1 299 093 029	61 701 372	4.7 %	0.95871	0.00069	0.04060
6	1131111	1 019 753 677	779 672 604	240 081 073	23.5 %	16 897	14	1 360 792	14 687	928 732 174	218 655 116	23.5 %	0.91074	0.00133	0.08792
1	1131111	81 019 798 905	69 550 760 928	11 469 037 977	14.2 %	1 897 258	406	19 219 848	1 756 376	77 663 701 934	10 999 666 304	23.5 %	0.91074	0.00133	0.08792
3	1131111	7 487 687 069	5 939 886 336	1 547 800 733	20.7 %	97 754	31	2 357 705	92 116	7 210 409 755	1 490 483 964	20.7 %	0.96297	0.00031	0.03672
6	1131112	2 744 845 445	2 228 209 247	516 636 198	18.8 %	46 514	31	1 500 308	45 784	2 705 432 938	509 213 775	18.8 %	0.98564	0.00055	0.01381
3	1131112	942 039 140	743 496 174	198 542 966	21.1 %	7 086	5	636 075	6 975	927 212 286	195 418 077	21.1 %	0.98426	0.00068	0.01506
1	1132111	4 951 406 790	4 643 641 528	307 765 262	6.2 %	204 007	34	666 290	175 526	4 576 990 985	284 492 648	6.2 %	0.92438	0.00013	0.07548
1	1142111	2 322 029 143	1 984 583 140	337 446 003	14.5 %	113 882	21 475	220 012 474	87 912	2 007 343 757	310 157 377	15.5 %	0.92438	0.00013	0.07548
3	1142111	1 620 645 608	1 333 866 826	286 778 782	17.7 %	37 083	1 169	50 359 715	33 656	1 513 757 542	270 537 644	17.9 %	0.93405	0.03107	0.03488
1	1151111	9 489 676 756	7 323 350 865	2 166 325 891	22.8 %	197 046	199	6 797 351	195 624	9 420 112 334	2 150 529 428	22.8 %	0.99267	0.00072	0.00661
1	1152114	2 319 392 500	2 213 403 564	105 988 936	4.6 %	69 195	172	4 049 650	68 856	2 310 682 830	105 584 910	4.6 %	0.99624	0.00175	0.00201
1	1161111	9 586 503 777	7 701 905 082	1 884 598 695	19.7 %	172 978	246	11 546 526	170 675	9 489 780 679	1 865 531 856	19.7 %	0.98991	0.00120	0.00889
6	1161111	437 898 020	340 443 885	97 454 135	22.3 %	4 945	8	519 298	4 899	435 453 427	96 907 548	22.3 %	0.99442	0.00119	0.00440
6	1181111	667 444 224	580 469 567	86 974 657	13.0 %	8627	18	589 290	8 548	663 181 389	86 421 624	13.0 %	0.99361	0.00088	0.00550
1	1181121	396 757 191	303 634 311	93 122 880	23.5 %	13 195	71	440 481	12 335	371 028 806	87 083 463	23.5 %	0.93515	0.00111	0.06374
6	2310005	853 162 145	675 641 050	177 521 095	20.8 %	21 269	7	216 878	21 008	842 120 640	175 225 397	19.2 %	0.97519	0.00094	0.02387

Scheme numbers, ESSPROS codes and labels are listed in Table 1. Annex 3: List of social benefits that are included in ESSPROS core system, and whether they are subject to taxation or not

Country name : NORWAY		Year : 2005							
ESSPROS code	ESSPROS benefits	National name of benefits	Scheme number	Accounting chapter	Accounting item	Accounting sub item	(X = tax exemption)	No data collected in this project	Comments
1111111	Paid sick leave	Sykepenger	1		2650	70			
1111111	Paid sick leave	Sykepenger	1		2650	71			
1111111	Paid sick leave	Sykepenger	1		2650	72			
1111111	Paid sick leave	Sykepenger	1		2650	75			
1111111	Paid sick leave	arbeidsgivers andel av sykepenger, beregnet (AASB)		AASB				X	No data available
1111121	Other cash lump sum benefits	Norsk Pasientskadeerstatning	6				X	X	compensation are partly taxed
1121111	Disability pension	Uførepensjon, grunnpensjon	1		2655	70			
1121111	Disability pension	Uførepensjon, tilleggspensjon	1		2655	71			
1121111	Disability pension	Uførepensjon, foreløpig uførepensjon	1		2655	73			
1121111	Disability pension	Uførepensjon, tidsbegrenset uførestonad	1		2655	74			
1121111	Disability pension	Uførepensjon, yrkesskadetrygd	1		2655	76			
1121111	Disability pension	KLP Uførepensjon	4	KLPU				X	
1121111	Disability pension	SPK Uførepensjon	3		2975	70			
"	Disability pension	Uførepensjon, Militære krigspensjoner	6		2870	71			
"	"	Uførepensjon, Heimestykkepersonell og sivilpersoner	6						
1121111	Disability pension	Pensjonstrygd for sjømenn	6		2871	71			
		Grunn.- og hjelpestonad -			2895	71			
1121113	Care allowance	Hjelpeløshetsbidrag og tilleggshjelp. Militære krigspensjoner	6		2870	74	X		
1121113	Care allowance	Grunn.- og hjelpestonad -							
1121113	Care allowance	Hjelpeløshetsbidrag og tilleggshjelp. Militære krigspensjoner	6		2870	75	X		
1121113	Care allowance	Grunn.- og hjelpestonad -							
1121113	Care allowance	Hjelpeløshetsbidrag og tilleggshjelp.	6				X		
		Heimestykkepersonell og sivilpersoner			2871	74			
		Grunn.- og hjelpestonad -							
1121113	Care allowance	Hjelpeløshetsbidrag og tilleggshjelp.	6				X		
		Heimestykkepersonell og sivilpersoner			2871	75			
1121113	Care allowance	Grunn.- og hjelpestonad, folk	1		2661	70	X		
1121113	Care allowance	Grunn.- og hjelpestonad, folk	1		2661	71	X		
1121114	Economic integration of the handicapped	Attføringspenger	1		2543	70			
1121114	Economic integration of the handicapped	Attføringsstonad	1		2543	71	X		
1121114	Economic integration of the handicapped	Rehabiliteringspenger, Medisinsk rehabilitering			2652	70			
1121123	Other cash lump sum benefits	Menerstatning ved yrkesskade	1		2655	75		X	
1121123	Other cash lump sum benefits	SPK Yrkesskadeerstatning	3						No information in the data about this benefit
					2975	70	10		
1121123	Other cash lump sum benefits	Pionerdykkerne i Nordsjøen, tilskudd	6		646	70		X	
1122111	Disability pension (mean tested)	Uførepensjon, Særtillegg	1		2655	72			

Country name : NORWAY

Year : 2005

ESSPROS code	ESSPROS benefits	National name of benefits	Scheme number	Accounting chapter	Accounting item	Accounting sub item	(X = tax exemption)	No data collected in this project	Comments
1131111	Old-age pension	Grunnpensjon, Alderdom	1		2670	70			
"	"	Tilleggspensjon	1		2670	71			
"	"	Ventetillegg, folketrygden	1		2670	72			
1131111	Old-age pension	Supplerende alderspensjon SPK	3		2975	70			
1131111	Old-age pension	KLP Supplerende alderspensjon	4	KLP A				X	
1131111	Old-age pension	Pensjonstrygd for sjømenn	6		2895	70			
1131112	Anticiped old age pension	AFP, Avtalefestet pensjon SPK	3		2975	70	1		
1131112	Anticiped old age pension	AFP, Avtalefestet pensjon privat sektor	6		666				
1131113	Partial pension	Garantikassen for fiskere	6		2896	77			
1132111	Old-age pension (mean tested)	Særtillegg	1		2670	73			
1141121	Death grant	SPK Gruppeliv	3		2975	70	15	X	
1142111	Survivors' pension, (mean tested)	Grunnpensjon, Tilleggspensjon og Særtillegg (Kap. 2680 Etterlatte)	1						
1142111	Survivors' pension	Etterlattepensjon SPK, (Kap. 2975)	3		2975	70	4		
"	"				2975	70	5		
1142111	Survivors' pension	KLP Etterlattepensjon	4	KLP E				X	
1142111	Survivors' pension	Etterlattepensjon, Militære krigspensjoner	6					X	Data not comparable with core system
1142111	Survivors' pension	Etterlattepensjon, Militære krigspensjoner	6		2870	72			
1142111	Survivors' pension	Etterlattepensjon, Militære krigspensjoner	6		2870	73		X	"
1142111	Survivors' pension	Heimestyrkepersonell og sivilpersoner	6		2871	72		X	"
1142111	Survivors' pension	Etterlattepensjon, Heimestyrkepersonell og sivilpersoner	6		2871	73		X	"
1142111	Survivors' pension	Etterlattepensjon, Pensjonstrygd for sjømenn	6		2895	72			
1142111	Survivors' pension	Etterlattepensjon, Pensjonstrygd for sjømenn	6		2895	73			
1142111	Survivors' pension	Etterlattepensjon, Pensjonstrygd for sjømenn	6		2895	75			
1142111	Survivors' pension	Etterlattepensjon, Grunnpensjon	1		2680	70			
1142111	Survivors' pension	Etterlattepensjon, tilleggspensjon	1		2680	71			
1142111	Survivors' pension	Etterlattepensjon, særtillegg	1		2680	72			
1142112	Other cash periodic benefits	Etterlattepensjon, Utdanningsstønad	1		2680	74		X	
		Etterlattepensjon, Stønad til barnetilsyn	1		2680	75		X	
1151111	Income maintenance in the event of child	Fødselspenger og adopsjonspenger til yrkesaktive	1		2530	70			
		Fødselspenger og adopsjonspenger, feriepenge	1		2530	72			
1151111	Income maintenance in the event of child	Fødselspenger og adopsjonspenger	1		2530	73			
1151112	Parental leave benefit	Kontantstøtte	2		844	70		X	
1151113	Family or child allowance	Barnetrygd	2		845	70		X	
1151121	Birth grant	Engangsstønad ved fødsel og adopsjon	1		2530	71			X
1152114	Other cash periodic benefits	Stønad til enslig mor eller far, ovegangstønad	1		2683	70			
1152114	Other cash periodic benefits	Stønad til enslig mor eller far, Stønad til barnetilsyn	1		2683	72		X	
1152114	Other cash periodic benefits	Stønad til enslig mor eller far, Utdanningstønad	1		2683	73			
1152114	Other cash periodic benefits	Stønad til enslig mor eller far, forskuttering av underholdsbidrag	1		2683	76		X	
1152114	Other cash periodic benefits	Folketrygdens inntekter, refusjon av bidragspliktige	1						not relevant, receipt in the account
1152114	Other cash periodic benefits	Folketrygdens inntekter, refusjon av overskytende bidrag	1		5701	73			not relevant, receipt in the account
1152114	Other cash periodic benefits	Pensjonstrygd for sjømenn	6		2895	74			

Country name : NORWAY

Year : 2005

ESSPROS code	ESSPROS benefits	National name of benefits	Scheme number	Accounting chapter	Accounting item	Accounting sub item	(X = tax exemption)	No data collected in this project	Comments
1161111	Full unemployment benefit	Dagpenger	1	2541	70				
1161111	Full unemployment benefit	Ventelønn	6	635	1				
1161111	Full unemployment benefit	Garantikassen for fiskere, arbeidsledighetstrygd	6	2896	71				
1161111	Full unemployment benefit	Ventelønn inntekter (ref. statlig virksomhet)	6	3635	1			not relevant	not relevant, receipt in the account
1161111	Full unemployment benefit	Ventelønn inntekter (ref. statlig virksomhet)	6	3635	85			not relevant	not relevant, receipt in the account
1161113	Early retirement benefit for labour market	SPK Førtidspensjon	3	2975	70				
1172220	Benefit to owner-occupiers	Bostøtte	6	580	70	2 1	X		
1181111	Income support	Introduksjonsordningen kommune (OFF)	6	1275	89				
1181111	Income support	Introduksjonsordningen kommune (OFF)	6	1275	470				
1181111	Income support	Råd, veiledning og sosial forebyggende arbeid (OFF)	6	1242	89				
1181121	Other cash lump sum benefits	Statens erstatningsansvar, erstatning voldsofre	6	471	70				
"	"	Statens erstatningsansvar m. m.	6	471	71				
"	"	Statens erstatningsansvar, Erstatning for uberettinget straffølgelse	6	471	72				
"	"	Statens erstatningsansvar, Erstatningsordning for etterlatte etter Utvik Senior	6	471	74				
"	"	Statgaranti for lønnskrav ved konkurser	1	2542	70				
"	"	Statgaranti for lønnskrav ved konkurser, folketrygdens inntekter, dividende	1	5704	2				not relevant, receipt in the account
"	"	Refusjon av dagpenger, folketrygdens inntekter, Refusjoner dagpenger ved konkurser, statsgaranti ved konkurs	1	5705	1				not relevant, receipt in the account
"	"	Refusjon av dagpenger, folketrygdens inntekter, refusj. Dagpenger fra EØS-land	1	5705	3				not relevant, receipt in the account
1182111	Income support	Sosialhjelp	6	281			X		