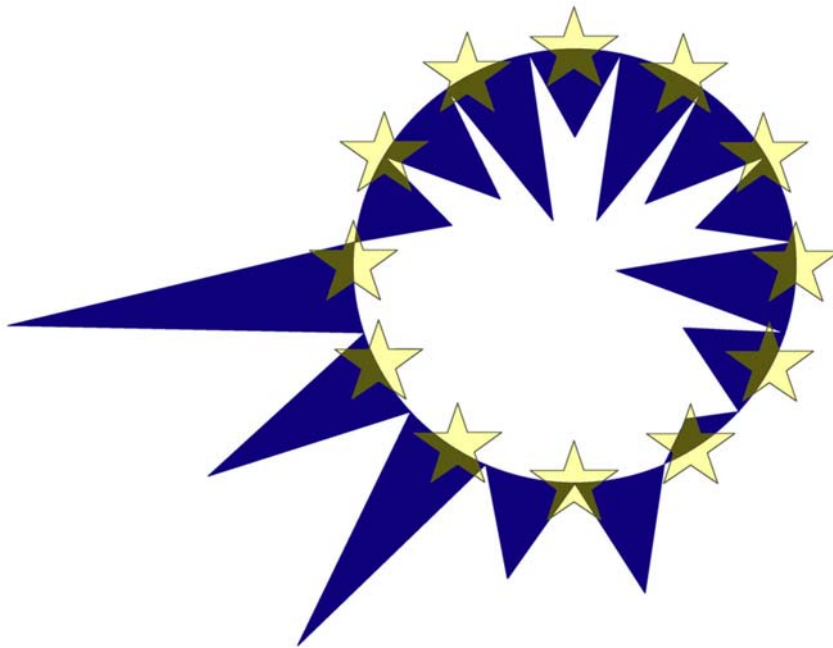# EUROMOD

COUNTRY REPORT

EUROMOD Country Report

AUSTRIA
(2$^{\text{ND}}$ EDITION)

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1. The Austrian tax-benefit system: an overview[1]

The size of the public sector in terms of revenues and expenditures is large in Austria. Despite this fact, there is evidence that its redistributive impact from high to low income classes is limited. On the revenue side, progressive income and property taxation is low but regressive social security contributions and indirect taxes are high. On the expenditure side, the principle of horizontal equity is prevalent and means testing is of hardly any importance.

In Austria, the level of taxation amounts to almost 45 per cent of GDP and is above the already high EU average; the OECD average is 36.9 percent. Tax levels are higher only in Belgium, France and the Nordic countries. While the high level of taxation in Austria indicates the high capacity of the public sector to affect the economy, the composition of public revenues implies a rather low degree of progressivity. Taxes on income and profits amount only to 29 per cent and taxes on property to 1.3 per cent of total tax revenues, that is, far below the EU and OECD average. On the other hand, social security contributions, taxes on goods and services and payroll taxes, with proportional or even regressive redistributive impact, make up more than two thirds of total revenue.

The level of total social (public and mandatory private) expenditure with regard to GDP is in Austria to some extent above EU-average and largely above OECD-average. It amounts to almost 28 per cent of GDP. The lion's share of social expenditures goes to outlays related to old-age pensions, namely 36 per cent. This share is much higher than EU or OECD average where it is roughly one third. Also, expenditures on family policy are higher than on international average.

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[1] This section draws heavily on and updates Guger 1997. We gratefully acknowledge the help of Johannes Blaas, Alois Guger, Peter Kolacny, Rainer Pilz, Kurt Pratscher, Ursula Tentschert, Matthias Till, Karl Wörister and Gerhard Wohlfahrt.

Table 1. Size and structure of public sector revenues and social expenditures in Austria, 1998

REVENUES		Direct taxation			Indirect taxation	
	Public sector revenues	Income and profit taxes	Social security contributions	Property taxes	Payroll taxes	Goods and services taxes
	% of GDP	% of total taxation				
Austria	44,2	29,3	34,2	1,3	6,2	28,0
OECD	36,9	35,8	25,3	5,3	1,0	31,3
EU	41,1	34,8	27,8	4,7	1,1	30,3

EXPENDITURES	Social expenditures	Old age*	Disability, Injury, Sickness*	Family	Unemployment**	Health
	% of GDP	% of total social expenditures				
Austria	27,6	36,0	12,1	11,0	4,9	20,9
OECD	21,5	32,7	11,3	8,3	9,4	26,0
EU	24,9	33,5	9,3	8,7	10,4	23,9

* without "services for the elderly and disabled" ** including "active labour market programmes"

Source: OECD Revenue Statistics 2001, OECD Social Expenditure Data Base 2001

1.1 The revenue side

1.1.1 Development

During the past three decades, property revenues have virtually exploded and the share of non-wage income in national income has increased (consequently, the wages share has declined). While the tax-income ratio of non-wage income components has decreased, the tax burden of wage and salary earners has significantly increased. Thus, non-wage income recipients have not only received an increasing share of national income, their tax burden has also declined. Therefore, wage earners have financed an ever increasing part of public sector activities. In 1970, the proportion of income tax paid by wage earners and pensioners amounted to 14.4 percent of direct taxation (including social security contributions) and the share of the income tax on non-wage income and corporate revenues amounted to 17.0 percent. However, by 1994, the proportion of income tax paid by wage earners and pensioners had increased to 24.9 percent of direct taxation while the share of income taxes paid out of non-wage incomes fell to 9.7 percent (Guger 1997).

There are several reasons for this declining tax burden on non-wage income: i) change in the 1970s from household to individual taxation, causing a sudden increase in the participation rate of spouses

of businessmen in smaller businesses and professionals; ii) increase of possibilities of reducing taxable profits; iii) significant change in the composition of non-wage: between 1970 and 1993, profits increased by 270 percent, but revenues from financial assets by 1.044 percent. Taxation of interest revenues could be avoided because of anonymous bank and capital accounts and a negligible amount of capital revenues had been taxed, until 1978. Then, a so-called "source tax" on interest payments of 7.5 percent was introduced, which has been increased to 22 percent since 1993. However, in exchange, asset taxes and death duties on financial assets have been abolished altogether.

1.1.2 Social security contributions

The social security system is financed by both employers and employees. For almost 90 percent of employees, their contribution to social security is the highest tax payment. In the private sector, there is a low threshold and a ceiling for social insurance contributions which means that people who earn less than the threshold fall out of the social insurance system and people who earn more than the ceiling pay a constant amount which means in turn a ceiling to pensions and unemployment benefits. 8.5 percent of employees are above the ceiling.

From a distributive point of view, the ceiling means that the redistributive impact of these social security contributions is regressive. In addition, social security contributions are tax deductible, thus reducing the degree of progressivity. Therefore, while employees in the lower half of the income distribution earn about 30 percent of total income, they pay nearly 34 percent of all social security contributions. Since 1983, the degree of regressivity of social security contributions has actually increased (Guger 1997).

1.1.3 Personal income tax (income tax on wages and pensions)

Income tax amounts to about a quarter of all taxes and to about 60 percent of all direct taxes. Apart from profits and capital revenues tax, the income tax on wages, salaries and pensions is the most progressive public revenue in Austria (the asset tax was abolished in 1993).

As a result of expansion in tax concessions, the Austrian income tax system had until the late 1980s been characterized by high marginal tax rates and a low and ever decreasing degree of progression. Therefore, a new income tax bill in the late 1980s aimed at lower marginal tax rates but higher

taxable income by limiting tax concessions. Consequently, the degree of progressivity increased despite a reduction of the highest marginal tax rate from 62 to 50 per cent.

Since 1989, the tax scale has had five brackets from 10 percent to 50 percent, with the highest marginal tax rate applicable for taxable annual incomes above 700,000 ATS. In addition, a special flat rate of 6 percent applies to bonuses or other remunerations limited to one sixth of current income. Consequently, in Austria, every employee receives 14 monthly payments of which two months' payments are called bonuses. This flat rate taxation of some parts of remuneration lowers the highest marginal tax rate to 43.7 percent. On top of that, this flat rate also applies to severance payments[2] which can amount to up to 12 months' earnings.

The degree of progressivity is further substantially reduced by a number of tax concessions: i) social security contributions are a standard deduction; ii) there are a number of work-related tax concessions, such as expenses for further education; iii) there are tax concessions for special perennial expenses, such as premiums of life insurance or private health insurance, certain payments for residential housing, repayments of housing loans, or the acquisition of specific bonds, etc.

However, since the tax reform of 1993, the degree of progressivity has been significantly increased: first, tax credits have been extended, and second, a form of negative tax has been introduced, so that if tax credits are higher than tax liability the tax office pays the taxpayer the difference.

1.1.4   Indirect taxation: Taxes on goods and services

Indirect taxation has been a rather large component of the Austrian taxation system. About 30 per cent of all public revenues are taxes on goods and services, which is slightly below EU average, but, in addition, there are also payroll taxes of about 6 percent. The most important indirect tax is the value added tax. The normal VAT rate is 20 percent and there is a reduced rate of 10 percent for essentials like food, housing and printed matters like books and newspapers. VAT revenues amount to about two thirds of all indirect taxes. The rest are mainly other taxes on goods and services, duties, fees and user charges.

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[2]   Severance payments have to be paid when the employment contract is terminated by retirement or by the employers' notice. They amount to two months' earnings after three years employment, up to 12 months' earnings after 25 years with one employer.

According to Guger (1997), the redistributive impact of indirect taxes in Austria is clearly regressive. In the lowest decile, indirect taxes amount to about a quarter of gross income, in the fifth decile, to 13.8 percent and in the top decile to 10.2 percent. Since indirect taxation is more or less proportional to expenditures in all income categories, the higher savings ratio in the higher income groups are the main reason for the regressive impact of indirect taxation.

1.2 The expenditure side

The expenditure side of the Austrian welfare state is dominated by the principle of horizontal equity. For most public benefits, entitlements are specified by categorical definitions, such as age, family status or economic status, independent of current income or assets. However, due to the social insurance system which is based on income-related contributions, pensions, unemployment benefit, unemployment assistance and sickness benefits are related to past income levels and social status (white- or blue-collar worker or public servant). Only social assistance, unemployment assistance, parental leave benefits, extended parental leave benefit ("Sondernotstandshilfe") and housing support are means tested. With the exception of pensions, all transfer payments are tax free.

1.2.1 Family support

Family support is rather generous in Austria. Tax credits and family allowances for two children amount to 18.6 percent of the gross income of an average production worker in the mid-1990s (Guger 1997). Only in Iceland, Luxembourg and Belgium are tax credits and family allowances higher than in Austria.

The most important single transfer payment to families is the age-related family allowance. In addition, there are tax credits related to the number of children. Furthermore, these child-related tax credits are constructed as negative tax and, thus, also granted when the allowee has little or no tax liability.

In addition to the regular maternity benefits and leave for 16 weeks for mothers, waged or salaried mothers or fathers of new-born children are entitled to parental leave for one and a half years (an additional half a year is granted, if also the spouse takes parental leave). During this leave a flat rate parental leave benefit is paid. There is also special assistance ("Zuschuss zum Karenzgeld") for single mothers or couples with low income of the spouse and extended parental leave up to one year if the mother can prove that she cannot find appropriate day care that would enable her to accept a job. Besides these birth-related benefits there are also schooling-related benefits such as free text

books in primary and secondary education (however, with retained amount) and free transport for pupils and subsidies in this regard for students who are entitled to family allowances.

These family-related benefits are mainly financed through the Family Allowance Fund which is funded by an earmarked payroll tax of 4.5 percent[3] and by income tax revenues. In addition, the Unemployment Insurance Fund contributes about 30 percent of parental leave benefits.

Guger (1997), confining the analysis to families with children, finds that family support is more or less evenly distributed; while in the lower deciles support per child is higher, in the upper deciles the number of children per family is higher. There are, however, important differences in the distributive impact of the various measures: birth-related benefits are more likely to assist middle- and low-income groups, where more young families are represented.

1.2.3 Unemployment insurance

The Austrian unemployment insurance system is not as generous as family support. In general, unemployment benefit is granted for 20 weeks and up to 52 weeks for employees over 50 years of age. When the benefit period runs out, and no job has been found, unemployment assistance is available. This unemployment assistance ("Notstandshilfe") is means tested.

For the 90 percent of employees who earn less than the ceiling of the social security system, the replacement ratio of unemployment benefit – which is not taxed – is about 58 percent of the last net income (basic amount of unemployment benefit). In addition, there is a family supplement for each dependent family member. The basic amount of unemployment assistance is paid at 92-95 percent of the basic amount of unemployment benefit. Again there is a family supplement for persons with dependent family members.

According to Guger (1997), unemployment benefits and unemployment assistance are the most progressive public expenditures. This is linked to the fact that the probability of becoming unemployed is much higher in lower income classes than in the higher.

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[3] This payroll tax could be considered as the employees' contribution to finance family benefits since it was taken into account in wage negotiations when it was introduced.

1.2.4 Education and health

Despite the fact that a larger proportion of outlays for primary and secondary education is distributed to the upper half of the population, this expenditure is still moderately progressive. However, expenditure at the university level has a regressive impact on the redistributive process. As for health expenditures – increasing as in the OECD area in general – although higher income classes receive a larger part of those expenditures due to the higher household size, health expenditures are clearly progressive (Guger 1997).

1.3   The net incidence of the public sector

In Austria, income and property taxes are low and only moderately progressive; this feature is due to a number of tax concessions which substantially lower the tax rate for high incomes. Indirect taxes and social security contributions, which have a regressive effect on the distribution, make up some 70 percent of all public revenues. Thus, the degree of progression of public revenues is very moderate. In turn, public expenditures seem to have more of a redistributive impact, although eligibility, and hence the distribution of public expenditures, are dominated by the principle of horizontal equity and means testing is of little importance. Consequently, in absolute money terms, higher income classes in which incidentally the household size is larger receive most public benefits. Only unemployment benefits, unemployment assistance and special assistance assistance ("Zuschuss zum Karenzgeld") for single mothers or couples with low income of the spouse are, in absolute terms, distributed to a greater extent to low-income groups. In spite of this, in relation to income, low-income classes receive more public benefits than high-income groups. Thus, the expenditure side seems progressive. In sum, if there is redistribution by the state in Austria, it is by public expenditures rather than by public revenues (Guger 1997).

2. Description of the modelled tax-benefit instruments

2.1 The scope of the simulation

The Austrian tax-benefit system is a rather complex one. This is mainly due to the complexity of the social insurance legislation, the number of different transfers and the "mix" of relevant administrative responsibility (federal, provincial, local). Due to the limitations of available micro-data, not all instruments lend themselves to simulation. In order to correctly interpret model results,

it is therefore essential to clarify the scope of the simulations. In the following table, we will outline what parts are and are not included in the current version of EUROMOD. Of course, the amounts of non-simulated instruments may still play an important role in determining people's income situations (e.g., pensions). In general, therefore, amounts, which cannot be simulated are taken directly from the data (entry "Data" in the third column). However, in a few cases, information on instruments is neither simulated nor available from the micro-data ("None").

Table 2. Tax-/benefit-instruments simulated or taken from data

Instrument	Comments	Simulated / Data / None	% of GDP* 1998
1. TAXES			
Income tax ("Einkommensteuer")	Federal Income Tax.	Simulated	9.19
Capital Income Tax ("KESt"+"KESt auf Zinsen")		Simulated	1.02
Church Tax ("Kirchenbeitrag")	Not actually a tax: paid to and collected by the church.	None	0.19[2]
Property Tax ("Grundsteuer B")	Municipal tax on real estate. Based on official values ("Einheitswert") of real estate.	None	0.21
Value Added Tax ("Umsatzsteuer/MwSt")	See separate report on indirect taxes.	Simulated	8.26
Other indirect taxes ("Verbrauchsabgaben")	See separate report on indirect taxes.	Simulated	2.75
Estate and Gift Tax ("Erbschafts- und Schenkungssteuer")		None	0.06
2. SOCIAL INSURANCE CONTRIBUTIONS			
Non-Civil Servant Employees	Health Insurance (incl. EFZG) Pension Insurance Unemployment Insurance Compulsory Union Contributions ("Kammerumlage") Housing Subsidy ("Wohnbauförderungsbeitrag") Building Worker Vacation- and Severance-Pay-Fund ("Bauarbeiter Urlaubs- u. Abfertigungskasse")	Simulated None	3.89[5] 7.03[5] 1.82[5] 0.10[2] 0.29[5] 0.02[5]
Civil Servants	Health Insurance Pension Insurance Housing Subsidy ("Wohnbauförderungsbeitrag")	Simulated	0.29[2,5] 1.03[5] 0.07[2,5]
Employers	Health Insurance Pension Insurance Unemployment Insurance Accident Insurance Bankruptcy Fund ("Insolvenzentgeltsicherung" Family Benefits Fund ("Familienlastenausgleichsfonds") Housing Subsidy ("Wohnbauförderungsbeitrag")	Simulated	0.51[7] 0.18 1.55

	Nightshift-Heavy Labour ("Nachtschichtschwerarb.Beitr.")	None	0.01
Self-Employed	Health Insurance Pension Insurance Accident Insurance	Simulated	0.35 0.55 0.04
3. TRANSFER PAYMENTS (FAMILY)			
Family Benefit ("Familienbeihilfe")	Universal benefit for children	Simulated	1.33
Short Term Pregnancy Benefit ("Wochengeld")		Data (partly; aggregated with other benefits)	0.16
Maternity Benefit ("Karenzgeld"; "Teilzeitbeihilfe"; "Betriebshilfe")		Data (aggregated with other benefits)	0.37
Maternity Allowance Supplement ("Zuschuss zum Karenzgeld oder zur Teilzeitbeihilfe")	Supplement maternity benefit for single Parents (universal) and low income couples (means tested).	Simulated	?
Small Children Benefit ("Kleinkindbeihlife")	Income tested benefit for small children who are cared for by the parent(s).	Simulated	0.00…
Newborn health check bonus ("Mutter-Kind-Pass-Bonus")	Benefit paid as an incentive to have follow-up health checks done after birth of a child.	Simulated	0.00…
Family Hardship Compensation ("Familienhärteausgleich")	One-time benefit for cases where all other sources of assistance have been exhausted.	None	0.00…
Child Care Benefit for Unemployed ("Kinderbetreuungsbeihilfe")	Short-term benefit paid to enable unemployed people with children to partcipate in the labour market and/or training courses.	None	0.00…
Provincial Family Bonus ("Familienzuschuss der Bundesländer")	Province specific income tested benefit for low income families with small children.	Simulated	0.02[4]
SUBSIDISED KINDERGARTEN ("ÖFFENTL. KINDERGÄRTEN")		None	0.35
4. TRANSFER PAYMENTS (EDUCATION)			
Free use of public transport for students and apprentices ("Schüler- und Lehrlingsffreifahrt")	In-kind benefit	None	0.15
Student grants	Means tested benefit for students	Data	0.02

("Schülerbeihilfe"; "Heimbeihilfe")	who continue school beyond compulsory schooling.	(aggregated with other benefits)	
Provision of school books ("Schulbuchaktion")	In-kind benefit	None	0.05
Student grants (Higher Ed.) ("Studienbeihilfe")	Means tested benefit for students in higher education.	Data (aggregated with other benefits)	0.07
Free accident insurance for students ("Beitragsfreie Unfallversicherung für SchülerInnen und StudentInnen")		None	0.00…
5. TRANSFER PAYMENTS (UNEMPLOYMENT)			
Unemployment Benefit ("Arbeitslosengeld")		Data (will be simulated in future versions of EUROMOD)	0.74
Unemployment Assistance ("Notstandshilfe"; "Sondernotstandshilfe")		Data (will be simulated in future versions of EUROMOD)	0.50
6. TRANSFER PAYMENTS (SICKNESS, DISABILITY)			
Free Health Insurance for relatives ("Beitragsfreie Krankenmitversicherung für Angehörige")		None	0.82[3]
Sickness Benefit ("Krankengeld")		Data	0.19
Prescription fee waiver ("Rezeptgebührenbefreiung")	Income tested	None	0.03
Health service cheque fee waiver ("Krankenscheingebührenbefreiung")	Income tested	None	0.04
Accident pension ("Versehrtenrente")		Data	0.16
Federal Disability Benefit ("Bundespflegegeld")		Data (aggregated with other benefits)	0.60
Provincial Disability Benefit ("Landespflegegeld")		Data (aggregated with other	0.13

		benefits)	
7. TRANSFER PAYMENTS (OLD AGE, SURVIVORS)			
Old Age Pension ("Alterspension"; "Ruhegenuss")		Data (aggregated with other benefits)	4.67[4]
Early Retirement Pension ("Vorzeitige Alterspension")		Data (aggregated with other benefits)	1.47
Part-time Retirement Pension ("Gleitpension")		Data (aggregated with other benefits)	0.01
Disability Pension ("Invaliditäts- oder Berufsunfähigkeitspension")		Data	1.61
Survivor Pension ("Witwen- und Waisenpension")		Data	1.49
Minimum Pension Non-Civil Servants ("Ausgleichszulage")		Simulated	0.42
Minimum Pension Civil Servants ("Ergänzungszulage")		Simulated	?
Extra Child Benefit for Pensioner Parents. Non-Civil Servants. ("Kinderzuschuss")		Simulated	0.01
Extra Child Benefit for Pensioner Parents. Civil Servants. ("Kinderzulage")		Simulated	0.00…
8. TRANSFER PAYMENTS (HOUSING)			
Social Housing ("Gemeindewohnungen")	Municipal in-kind transfer.	None	?
Subsidised Housing ("Objektförderung: Geförderte Miet,- Genossenschafts- und Eigentumswohnungen")	Responsibility of the provinces.	None	?
Housing Benefit ("Wohnbeihilfe")	Responsibility of the Provinces. Means tested. Only available if living in subsidised Housing.	Data	0.06[2]
Rent Subsidy ("Mietzinsbeihilfe")	Very low income limits - no longer important.	Data	0.00…
9. TRANSFER PAYMENTS			

(MINIMUM STANDARDS)			
Social Assistance (1) – Cost of Living ("Sozialhilfe – Hilfe zur Sicherung des Lebensunterhaltes")	Province specific. Means tested.	Simulated	0.18[8]
Social Assistance (2) – Exceptional Circumstances ("Sozialhilfe – Hilfe in besonderen Lebenslagen")	Province specific.	None	?
Excemption from telephone and public broadcasting fees ("Befreiung von Telephon-, Radio- und Fernsehgebühr")		None	?

* 1998: 2,613,590 Mio. ATS (Statistik Austria 2001a, 260)

Note 1: Sources: Statistik Austria 2000a, Hauptverband der österreichischen Sozialversicherungsträger 1999a, Hauptverband der österreichischen Sozialversicherungsträger 1999b, Kammer für Arbeiter und Angestellte 1999, Kammer für Arbeiter und Angestellte 2000

Note 2: Own estimate

Note 3: 1997

Note 4: incl. Kärnten 1999

Note 5: Employer contributions plus employee contributions

Note 6: Excluding civil servants and voluntary contributions

Note 7: Employer contributions plus self-employed contributions

Note 8: Sum of Social Assistance (1) (incl. sickness-help) and Social Assistance (2)

In the table below, we show those instruments that are simulated by EUROMOD. The order in the table (from top to bottom) represents the order in which the instruments ("policies") are computed in the model (e.g., employee contributions need to be computed before income taxes because they are tax-deductible). This is the so-called "policy spine" as represented by the EUROMOD parameter file "spine.xls". Note, that in the detailed description of instruments further below we do not follow entirely this sequence. Instead, we arrange the different instruments into three main groups (taxes, contributions and benefits) in order to provide a more intuitive overview of the Austrian system.

Table 3. Name and description of simulated policies

Policy Name	Policy Description
SBEN_CB_AT	*child benefit*
SBEN_CBdis_AT	*addition to child benefit for disabled children*
IBEN_MaterYadd_AT	*Maternity Allowance Supplement Non-Civil Servants ("Zuschuss zum Karenzgeld oder zur Teilzeitbeihilfe")*
IBEN_MaterYaddCS_AT	*Maternity Allowance Supplement Civil Servants ("Zuschuss zum Karenzgeld oder zur Teilzeitbeihilfe")*
IBEN_PenChBon_AT	*Child Bonus for Pensioners ("Kinderzuschuss (ASVG)")*
IBEN_PenChBonCS_AT	*Child Bonus for Civil Service Pensioners ("Kinderzulage (PG)")*
EESICpi_temp_AT	*temporary employee contributions to pensions insurance (excluding any min. pension from the base)*
EESIChi_temp_AT	*temporary employee contributions to health insurance (excluding any min. pension from the base)*
EESICui_AT	*employee contributions to unemployment insurance*
EESIChousing_AT	*Employees' Contribution to Housing Subsidy ("Wohnbaufoerderungsbeitrag")*
EESICunion_AT	*Employees' Compulsory Union Contributions ("Kammerumlage")*
SESIChi_AT	*self-employed contributions to health insurance*
SESICpi_AT	*self employed contributions to pensions insurance*
SESICdi_AT	*self employed contributions to disability (accident) insurance*
IT1_temp_AT	at_it_ch_tcred
IBEN_MinPen_AT	*Minimum Pension ("Ausgleichszulage")*
IBEN_MinPenCS_AT	*Minimum Pension for Civil Servants ("Ergaenzungszulage")*
EESICpi_AT	*employee contributions to pensions insurance*
EESIChi_AT	*employee contributions to health insurance*
ERSICui_AT	*employer contributions to unemployment insurance*
ERSICpi_AT	*employer contributions to pensions insurance*
ERSIChi_AT	*employer contributions to health insurance*
ERSICdi_AT	*employer contributions to accident insurance*
ERSIChousing_AT	*Employers' Contribution to Housing Subsidy ("Wohnbaufoerderungsbeitrag")*
ERSICfamben_AT	*Employers' Contribution to Family Benefits Fund ("Beitrag zum Familienlastenausgleichsfonds")*

ERSICbank_AT	*Employers' Contribution to Bankruptcy Fund ("Insolvenzentgeltsicherung", IESG)*
ITreset_AT	*Ensure that income tax variables are zero to start with by subtracting any tax that has already been computed (in IT1_temp)*
IT1_AT	at_it_ch_tcred
SBEN_SCB_AT	*small children benefit*
SBEN_CBB_AT	*Newborn health check bonus ("Mutter-Kind-Pass-Bonus")*
SBEN_FamBonB_AT	*Family bonus Burgenland ("Familienzuschuss des Landes Burgenland")*
SBEN_FamBonK_AT	*Family bonus Kaernten ("Kaerntner Familienzuschuss")*
SBEN_FamBonO_AT	*Family bonus Oberoesterreich ("Familienzuschuss des Landes Oberoesterreich")*
SBEN_FamBonST_AT	*Family Bonus Steiermark ("Familienbeihilfe des Landes Steiermark")*
SBEN_saB_AT	*Social Assistance Burgenland ("Sozialhilfe Burgenland: Hilfe zur Sicherung des Lebensunterhaltes")*
SBEN_saK_AT	*Social Assistance Kaernten ("Sozialhilfe Kaernten: Hilfe zur Sicherung des Lebensunterhaltes")*
SBEN_saN_AT	*Social Assistance Niederoesterreich ("Sozialhilfe Niederoesterr.: Hilfe zur Sicherung des Lebensunterhaltes")*
SBEN_saO_AT	*Social Assistance Oberoesterreich ("Sozialhilfe Oberoesterreich: Hilfe zur Sicherung des Lebensunterhaltes")*
SBEN_saS_AT	*Social Assistance Salzburg ("Sozialhilfe Salzburg: Hilfe zur Sicherung des Lebensunterhaltes")*
SBEN_saST_AT	*Social Assistance Steiermark ("Sozialhilfe Steiermark: Hilfe zur Sicherung des Lebensunterhaltes")*
SBEN_saT_AT	*Social Assistance Tirol ("Sozialhilfe Tirol: Hilfe zur Sicherung des Lebensunterhaltes")*
SBEN_saV_AT	*Social Assistance Vorarlberg ("Sozialhilfe Vorarlberg: Hilfe zur Sicherung des Lebensunterhaltes")*
SBEN_saW_AT	*Social Assistance Vienna ("Sozialhilfe Wien: Hilfe zur Sicherung des Lebensunterhaltes")*
SBEN_FamBonN_AT	*Family bonus Niederoesterreich ("Niederoesterr. Familienzuschuss")*
SBEN_FamBonS_AT	*Family bonus Salzburg ("Salzburger Familienfoerderung")*
SBEN_FamBonT_AT	*Family bonus Tirol ("Erziehungszuschuss I u. II des Landes Tirol"; "Familienschilling des Landes Tirol")*
SBEN_FamBonV_AT	*Family bonus Vorarlberg ("Familienzuschuss des Landes Vorarlberg"*
SBEN_FamBonW_AT	*Family bonus Vienna ("Wiener Familienzuschuss")*

2.2 Income tax (*IT1_AT*)

2.2.1 Cost of earnings deduction ("Werbungskostenabzug", at_it_EarnCost_ded)

When calculating income tax, the first deduction used is the "cost of earnings" deduction. The amount of deduction from employment income (*empY_IL=empY*) is 1,800 ATS annually.

2.2.2 Deduction for single earners ("Alleinverdiener", at_it_singearn)

If the annual earnings of the partner does not exceed 30,000 ATS (60,000 ATS if the couple has child) the person is treated as single earner. For determining relevant partner earnings, the preferentially taxed part of any special earnings (such as 13th and 14th monthly salaries, parameter

OthEarn_IL) are subtracted (up to a maximum of 23,000 ATS per year: parameter *threshold*). The preferentially taxed part of special earnings is one sixth (parameter *annual_fraction*) of the regular annual earnings (*SingEarner_IL* minus *OthEarn_IL*).

2.2.3 Limited expenditure deduction ("eingeschraenkt abzugsfaehige Sonderausgaben", `at_it_exp_ded`*)*

Expenditures (*expenditure_IL=LimitedExp*) are deductible from earnings (*earnings_IL=earnings*) at a rate of 0.25 up to an annual ceiling of 40,000 ATS. An additional ceiling of 40,000 ATS/year comes to the regular ceiling if the person is single earner (see above), and 20,000 ATS/year is added for persons with more than 3 children. For incomes between 500,000 and 700,000 ATS/year the deduction is tapered (at 700,000 it is tapered to 0).

2.2.4 Church tax deduction ("Kirchensteuerabzug", `at_it_ChurchTax_ded`*)*

A maximum amount of 1,000 ATS/year (ceiling=1,000) is deductible for church tax. Not in fact simulated because no information on paid church tax in data.

2.2.5 Charitable donations deduction ("Abzug von Spenden an beguenstigte Institutionen", `at_it_donations_ded`*)*

Charitable donations are deductible from earnings up to the limit of 10% of the earnings. Not in fact simulated because no information on donations in data.

2.2.6 Exceptional costs deduction ("Aussergewoehnliche Belastungen", `at_it_ExceptCost_ded`*)*

Exceptional costs (*ExceptCost_IL=ExceptCost,* e.g. additional costs of disabled children) are deductible from taxable income (excluding tax credits, *income_IL=taxableY_ex_tfa*). However, for some of the exceptional costs the taxpayer has to contribute a retained amount, which increases with higher income (cf. Table 4).

Table 4. Annual income and retained amount exceptional cost deduction

Annual income	Retained amount
-100,000	6%
100,001-200,000	8%
200,001-500,000	10%
500,001-	12%

The retained amount is reduced by 1% point for each child and/or if taxpayer is entitled to single earners or lone parent tax credit.

Currently there are no entries in exceptional costs income concept (parameter *ExceptCost_IL*), since we don't have required variables in the data, consequently the effects of this deduction do not show up in the model.

2.2.7 Disability tax-free allowance ("Behindertenfreibetrag, `at_it_disab_tfa`*)*

Table 5 presents the annual amounts of tax-free allowance depending on the degree of disability.

Table 5. Degree of disability and annual disability tax free allowance

Degree of disability	Annual tax-free allowance
25-34%	996
35-44%	1,332
45-54%	3,324
55-64%	4,020
65-74%	4,992
75-84%	5,964
85-94%	6,960
95%-	9,984

The tax unit in this case is the family (*TAX_UNIT=CB_Family*). If the person receives care-benefit ("Pflegegeld"), the tax-free allowance is cut by the amount of the care-benefit.

2.2.8 Self assessment income tax-free allowance ("Freibetrag fuer zu veranlagende Einkommensarten", `at_it_selfass_tfa`*)*

The amount of tax-free allowance is 10,000 ATS/year. The income concepts for this allowance are *selfassY*, and *taxableY_ex_anyded*.

2.2.9 Tax-free allowance for agricultural workers ("Landarbeiterfreibetrag", `at_it_AgriWorker_tfa`*)*

The tax-free allowance amount is 2,340 ATS/year for agricultural workers.

2.2.10 Deduction of part of "Other Earnings" (`at_it_OthEarn_ded`*)*

"Other Earnings" ("Sonstige Bezuege") include e.g. 13/14 monthly payments, which are exempt from taxation at the normal rate structure. On other earnings below 8,500 ATS/year no tax is paid, the upper limit of preferential tax rate (*fixed_rate=0.06*) is 1/6 of annual income excluding other earnings (*annual_fraction=1/6*). The income concept for other earnings is *OthEarn_IL,* for overall earnings (including other earnings) is *empY+Pen.*

2.2.11 Common Tax Schedule (`co_it_schedule`*)*

Table 6 below, includes income brackets and rates for Austria.

Table 6. Income brackets and tax rates income-tax

Income brackets (ATS/year)	Tax rates
- 50,000	10%
50,001-150,000	22%
150,001-300,000	32%
300,001-700,000	42%
700,001-	50%

Taxable income is rounded to full 100s (*round_base=100*). Temporary income tax (as if unemployment incomes were also taxable) is computed on the base of taxable income and unemployment income (*TaxableY_il=taxableY+unempY*), which is necessary for the progression adjustment (see module *at_it_progr_adj* below). The tax unit here is the individual.

2.2.12 General tax credit ("Allgemeiner Absetzbetrag", `at_it_gen_tcred`*)*

The general tax credit amount is 8,840 ATS/year (*tcred_amt=8,840*). For incomes between 200,000 and 500,000 ATS/year the tax credit is tapered (at 500,000 it is tapered to 0). The income concept used here is *taxableY+unempY*.

2.2.13 Single earners' tax credit ("Alleinverdienerabsetzbetrag", `at_it_SingEarn_tcred`*)*

Single earners have a tax credit of 5,000 ATS/year. The tax unit is individual. If the tax is such low, that the single earner's tax credit does not come into effect, a negative tax up to 2,000 ATS/year is refunded, if the person has a least one child (see `at_it_tcred_red`).

2.2.14 Lone parent tax credit ("Alleinerzieherabsetzbetrag", `at_it_lp_tcred`*)*

Lone parents (*TAX_UNIT=lp*) have a tax credit of 5,000 ATS/year. If the tax is such low, that the lone parent tax credit does not come into effect, a negative tax up to 2,000 ATS/year is refunded, if the person has a least one child (see `at_it_tcred_red`).

2.2.15 Wage earners' tax credit ("Arbeitnehmerabsetzbetrag", `at_it_WageEarn_tcred`*)*

Wage earners tax credit is 1,500 ATS/year, up to 22% of taxable employment income (*taxableEmpY*). The tax unit is the individual. If the tax is such low, that the wage earners' tax credit does not come into effect, a negative tax up to ATS 1.500 is refunded. However, this refunding is limited with 10% of annual social insurance contributions paid by the concerned person (see `at_it_tcred_red`).

2.2.16 Commuters' tax credit ("Verkehrsabsetzbetrag", `at_it_commut_tcred`*)*

Commuters have tax credit of 4,000 ATS/year up to 22% of taxable employment income (*taxableEmpY*). The tax unit is the individual.

2.2.17 Pensioners' tax credit ("Pensionistenabsetzbetrag", `at_it_pen_tcred`*)*

Pensioners have tax credit of 5,500 ATS/year up to 22% of taxable employment income (*taxableEmpY*). The tax unit is the individual.

2.2.18 Income tax reduction (`at_it_red`*)*

If income tax is below 9,400 ATS/year (*inctax_lt=9,400*), then income tax is reduced by the difference of 9,400 and the actual income tax amount.

2.2.19 Preferential tax of other earnings ("Sonstige Bezuege", `at_it_OthEarn_tax`*)*

On other earnings below 8,500 ATS/year (*OthEarn_tfa=8,500*) no tax is paid, the upper limit of preferential tax rate (*fixed_rate=0.06*) is 1/6 of annual income excluding other earnings (*annual_fraction=1/6*; cf. 2.2.10). Other earnings above this limit are taxed under regular scheme. If other earnings (before deduction of contributions) are below 23,000 ATS/year (*threshold*) then they are not taxable ("Freigrenze"). Tax on other earnings cannot be greater than *0.3*other earnings threshold* (23,000). The income concept used here is *empY+Pen*.

2.2.20 Progression adjustment ('Progressionsvorbehalt', `at_it_progr_adj`*)*

Tax progression is adjusted for recipients of unemployment income. The module computes the average tax rate resulting from all preceding modules (taking as the basis taxable income that includes unemployment benefits) and then applies this average tax rate to the actual taxable income (which excludes unemployment benefits). In reality, the rule for computing the average rate is a bit more complicated: a rate that would prevail if taxable income (*taxableY*) had been received all year. But the result may not exceed tax which would result if actual *taxableY* and *replacmentY* were taxed together. The approach here produces the same result unless *empY+selfempY* is less than replacement income.

2.2.21 Child tax credit ("Kinderabsetzbetrag"; "Unterhaltsabsetzbetrag", `at_it_ch_tcred`*)*

Child tax credit also includes credit for children for whom maintenance payments are made. The amount of credit is 350 ATS/month for the first child, 525 ATS for the second and 700 ATS/month

for each further child. If there are maintenance payments (made to other children) then in the model it is assumed that they are made for one child (but this child doesn't increase the number of children in the household for the purpose of computing the child tax credit). The relevant tax unit here is the family (*TAX_UNIT=CB_Family*).

2.2.22 Withholding Tax on Investment Income ("Kapitalertragssteuer", `co_schedule`*)*

The withholding tax rate on investment income (*Base_IL=invY*) is 25% (*rate1=0.25*).

2.3 Social insurance contributions

2.3.1 Employers' contribution to disability (accident) insurance (`ERSICdi_AT`*)*

As in most cases of benefits and contributions, different systems exist for civil servants and non-civil servants. The employer of civil servants (*IsCivSrv=1*) pays 0.47% (*rate1*) of the contribution base (*B-KUVG_base*).

If non-civil servants have special payments such as 13th and 14th monthly wages) their employers pay 1.4% (*rate1*) of the employees' wages (indifferent whether regular or special payments). The point of difference is that the upper threshold (*up_base_limit*) of the contribution base is 42,000 ATS/month for the regular payment and 84,000 ATS/year for the special payment. If non-civil servants do not have special payment, then their employers pay the same 1.4% on the wages, with an upper limit of 49,000 ATS/month for the contribution base. Table 7 below, gives a summary of the contribution rules.

Table 7. Employers' contribution to disability (accident) insurance

	Lower base threshold*	Upper base threshold	Contribution (%)
Civil servants	0	-	0.47
Non-civil servants *Special payments exist*			
Regular payment[**]	0	42,000	1.4
Special payment[***]	0	84,000	1.4
Special payments do not exist[*]	0	49,000	1.4

[*] within the disability (accident) insurance there is no threshold for minor occupation.
[**] monthly amount.

2.3.2 Self-employed contribution to disability insurance (`SESICdi_AT`)

Farmers pay rate of 1.9% (*rate1*) of the contribution base (*selfempY*). The lower income threshold is 6,039 ATS/month (*threshold*), the upper limit of the contribution base is 49,000 ATS/month (*up_base_lt*). Other self-employed pay a fixed annual amount of 1,007 ATS for the disability insurance.

2.3.3 Employees' and Pensioners' contributions to health insurance (`EESIChi_AT`)

Again, we have to distinguish (1) public- and (2) non-public sector employees.

(1) Public sector employees and pensioners pay a basic rate of 3.7% (*rate*) of the contribution base (*B-KUVG_base*) and an additional 0.25% surcharge rate (*surcharge_rt*). For public sector employees and pensioners there is no lower income threshold, for regular payments the upper limit of the contribution base is 42,000 ATS/month (*up_base_lt*), for special payments the base limit is 84,000 ATS/year (*up_spec_pay_lt*).

(2) To non-public sector blue-collar workers two different rates apply: those covered by the Continuation of Payment Law (Entgeltfortzahlungsgesetz, EFZG) pay a basic rate of 3.7% (*EFZGBluCol_rt*) of the contribution base; those not covered by EFZG pay a higher contribution, 4.3% (*BluCol_rt*). Since in the ECHP database there is no possibility to identify EFZG-covered and not covered workers, we assume that all blue-collar workers are covered by EFZG (this assumption is close to reality). Agricultural blue-collar workers' (Landarbeiter) contribution is again 3.7% (*AgriBluCol_rt*), while white-collar workers pay a lower health insurance contribution: 3.15% (*WhitCol_rt*). Similarly to public servants, all non-public sector employees face a surcharge rate of 0.25% of their relevant incomes. The lower income threshold is 3,830 ATS/month (*threshold*), on contribution bases under this amount no contribution is paid.[4] The ceiling on base for contributions paid on income excluding special payments – if there are special payments – is 42,000 ATS/month (*up_base_lt*), which is 30 times the daily ceiling. The ceiling on the contribution base if there are no special payments is 49,000 ATS/month (*no_spec_up_base_lt*) that is 35 times the daily ceiling,

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[4] If the threshold is exceeded then the entire base is subject to the relevant rate.

while the upper limit of the contribution base for the special payment is 84,000 ATS/year (*up_spec_pay_lt*). If contributions are payable (i.e., if the regular contribution base excluding special payments is above the threshold) then all special payments up to the *up_spec_pay_lt* limit are subject to contributions.

The health-insurance contribution for non-civil servant pensioners is 3.75% (*rate1*) of their income (*penSIChi_base*), without any base-limits and upper limits.

2.3.4 Employer contributions to health insurance (`ERSIChi_AT`)

Employers of public sector employees and pensioners[5] pay a basic rate of 2.9% (*rate*) on the contribution base (*B-KUVG_base*) that also includes pensions. In addition to the basic rate, a surcharge rate of 0.65% applies (*surcharge_rt*). The contribution base includes the regular payments and special payments, as well. The upper limit of the contribution base for public sector wages and pensions is 42,000 ATS/month for regular payments (*up_base_lt*) and 84,000 ATS/year for special payments (*up_spec_pay_lt*).

Again, different rates apply to employers of non-civil servant blue-collar workers accordingly whether the employees are covered by EFZG ("continuation of payment law") or not. Those covered pay a basic rate of 6%[6] (*EFZGBluCol_rt*) and an additional 0,25% surcharge rate (*surcharge_rt*), while non-covered face a 4.3% contribution rate (*BluCol_rt*) and an additional 0,25% surcharge rate (*surcharge_rt*). As for the employees' contributions, we assume that all the employees are covered by EFZG. The employers of agricultural blue-collar workers have to pay the same 3.7% (*AgriBluCol_rt*) plus 0,25% surcharge rate (*surcharge_rt*) as their employees. The employers of white-collar workers contribute to the health-insurance budget with 3.25% (*WhitCol_rt*; incl. complement-amount) plus 0,25% surcharge rate (*surcharge_rt*) of the wages. The lower threshold and the ceilings are the same as for the employees' contribution bases. While employees only pay voluntary health insurance contribution on "minor wages" (if sum of "minor wages" of employee is under threshold of ATS 3,830 per month) employers have to pay 3.85% (*rate1*; if sum of "minor wages" of all employees exceeds ATS 5,745 per month).

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[5] Under the term "employer of pensioners" we understand either the social insurance authority ("Bundespensionsamt") or the enterprise (e.g. Austrian Railways) that pays out the pensions.

[6] 3.7% health insurance contribution plus 2.3% EFZG-contribution.

For "employers" of non-civil servant pensioners, i.e. the social insurance authorities the law specifies different health-insurance contributions, which have to be paid to into the fund of Central Association of Austrian Social Insurance Authorities (Hauptverband der österreichischen Sozialversicherungsträger). The pension insurance institutions for blue-collar workers, for salaried employees and the institution for business people pay a contribution of 7.575% (*rate1*) of the contribution base (*penSIChi_base*). The Insurance Institution for Austrian Railway within the Pension Insurance for Blue-Collar-Workers has to pay 18.1875%, while the Insurance Institution for Austrian Miners contributes 14.0625% of the pensions paid out. Since we don't have sufficient data to distinguish between the above occupation categories, we assume that all people belong to the first institution. For non-civil servant pensioners no threshold and upper limits exist.

2.3.5 Self-employed contributions to health insurance (`SESIChi_AT`)

When describing the health insurance contributions for self-employed, we distinguish between farmers and other self-employed. Farmers pay 5.9% basic rate (*rate*) and a surcharge rate of 0.5% (*surcharge_rt*). They have to contribute on income between 6,039 ATS/month (*threshold*) and 49,000 ATS/month (*up_base_lt*).

Non-farmer self-employed people have a basic contribution rate of 8.6% (*rate*) and a surcharge rate of 0.5%[7] (*surcharge_rt*). The upper base limit of the contribution base (*GSVG_base*) is 49,000 ATS/month (*up_base _lt*). The threshold depends on whether the self-employed person is a member of the Austrian Economic Chamber or not. For members the threshold is 13,761 ATS/month (*threshold_wk*), while non-members pay the contribution if the base exceeds 7,400 ATS/month (*threshold_se*). For the time being we don't have information about the chamber-membership, so we assume that nobody is a member of chamber; in other words we don't use *threshold_wk*. Another different threshold applies for partly self-employed (*GSVG_otherY>0,* i.e., if other income available), the lower limit of the contribution base is 3,830 ATS/month (*threshold_part_se*).

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[7] Not including a special contribution for a birth-related benefit ("Betriebshilfe" of 0.05%), which only applies for a particular sub-group which cannot be identified in our data.

2.3.6 Employee contributions to pension insurance (`EESICpi_AT`)

Similarly to other contributions, the law makes a distinction between civil servants and non-civil servants. Employees in the public sector pay 11.75% (*rate1*) of their wages (*empY*) as pension insurance contribution, regardless of the amount of income. Civil service pensioners also pay pension insurance contribution: 1.5% (*rate1*) of their pensions (*pubpen*).[8]

The contribution of employees outside the public sector is 9.25% (regardless of the occupation) to which a 1% surcharge rate comes. The threshold for regular payments is 3,830 ATS/month (*threshold*), the ceiling for contribution base excluding special payments – in case the employee has special payments – is 42,000 ATS/month (*up_base_lt*), the limit of the special payments under which contribution has to be paid is 84,000 ATS/year (*up_base_spec_lt*). Employees without special payments contribute under the monthly amount of 49,000 ATS (*no_spec_up_base_lt*).

2.3.7 Employer contributions to pension insurance (`ERSICpi_AT`)

Employers of non-civil-servants pay a pension contribution of 9.25% (*EFZGBluCol_rt, BluCol_rt, AgriBluCol_rt, WhitCol_rt*) and a surcharge of 3.3% (*surcharge_rt*), irrespective of the occupation (blue-collar, white collar and agricultural blue-collar workers). The lower income threshold for the contribution base is 3,830 ATS/month (*threshold*), ceiling for contribution base excluding special payments – in case the employee has special payments – is 42,000 ATS/month (*up_base_lt*), the limit of the special payments under which contribution has to be paid is 84,000 ATS/year (*up_base_spec_lt*). Employees without special payments contribute under the monthly amount of 49,000 ATS (*no_spec_up_base_lt*).

If the contribution base is fewer than 3,830 ATS/month (*le_incl_lt*) and the sum of minor wages paid exceeds 5.745 ATS/month, employers contribute to the pension insurance budget with 12.55% (*rate1*) of the base.

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[8] There are two sections (1a, 1b) in the policy file because we consider people to be civil service pensioners if they report they are OR if they report the receipt of a civil service pension. In the former case, the 1.5% are paid for all pensions, in the latter case only for the civil service pension (*CSpubpen*).

2.3.8 Self-Employed contributions to pension insurance (`SESICpi_AT`*)*

Farmers ("Betriebsführer") pay pension insurance contribution of 14% (*rate*) on income between 6.039 ATS/month (*threshold*) and 49,000 ATS/month (*up_base_lt*).

Professionals (lawyers, doctors, journalists, etc.) have a different contribution rate (20%) and the limits for the contribution base are also different. Only incomes between 13,761 ATS/month and 49,000 ATS/month are to be considered as contribution base.

As in the case of other contributions, the law makes differences between members and non-members of the Austrian Economic Chamber. For members the income threshold, under which no contribution is paid, is 13,761 ATS/month (*threshold_wk*), full time non-members pay the contribution above 7,400 ATS/month (*threshold_se*), while partly self-employed face a threshold of 3,830 ATS/month (*threshold_part_se*). The contribution rate is 14.5% for members of the Economic Chamber, non-members and part-time self-employed pay 15% of their contribution base. For the time being we don't have information about the chamber-membership, so we assume that nobody is a member of chamber; in other words we don't use *threshold_wk* or the 14.5% rate. The ceiling on the base for contributions is 49,000 ATS/month (*up_base_lt*). If the early retirement age is reached in or before 1998 (55 for women, 57 for men) then no contributions have to be paid (*early_ret_agef; early_ret_agem*). For the calculations we use the contribution base *GSVG_base,* and a person is to be considered as a partly self-employed if *GSVG_otherY* > 0.

2.3.9 Employee contributions to unemployment insurance (`EESICui_at`*)*

Employees (non-civil-servants) pay a contribution of 3% on wages between 3,830 ATS/month (*threshold*) and 42,000 ATS/month (*up_base_lt*), if the employee receives extra payments related to employment income. In this case the contribution has to be paid on special payments under the annual amount of 84,000 ATS (*up_base_spec_lt*). The ceiling on the contribution base if the person has no special payments, is 49,000 ATS/month (*no_spec_up_base_lt*).

2.3.10 Employer contributions to unemployment insurance (`ERSICui_at`*)*

Employers pay the contributions to unemployment insurance exactly according to the same algorithm as employees.

2.3.11 Employees' contributions to housing benefit ('Wohnbauförderungsbeitrag', `EESIChousing_at`*)*

In order to improve the position of (lower income) people on the housing market, *Bundesländer* have a special housing benefit, to which every employee – except agricultural workers (*IsBlueColl, IsAgriSec* = -2) – contributes with 0.5% (*rate1*) of his wages between 3,830 ATS/month (*threshold*) and 42,000 ATS/month (*up_base_lt*). On special payments no contribution is paid (*Base_IL=empY_exspec_Pay'*).

2.3.12 Employers contributions to housing benefit („Wohnbauförderungsbeitrag", `ERSIChousing_at`*)*

Employers pay the same amount of contribution, according to the same algorithm, as employees do.

2.3.13 Employees' Compulsory Union (or "chamber") Contributions („Kammerumlage", `EESICunion_AT`*)*

In Austria non-agricultural sector employees contribute to employee's chamber's budget on a compulsory base. Agricultural sector employees pay contributions to Agricultural Workers' chamber according to different rules, while civil servants do not pay chamber contributions at all.

Non-agricultural sector employees pay 0.5% (*rate1*) of their wages between 3,830 ATS/month (*threshold*) and 42,000 ATS/month (*up_base_lt*) to Federal Employees' Chamber. Contrary to other types of contributions, special payments do not constitute part of the contribution base *(Base_IL=empY_ex_specPay)*.

Agricultural blue-collar employees contribute to Agricultural Workers' Chamber, paying 0.75% (*rate1*) of the contribution base (3,830-42,000 ATS/month). However, agricultural workers in Burgenland province pay their contributions – if any – to the Federal Employee's Chamber instead of the Agricultural Workers' Chamber, but we currently do not take it into consideration. Except Kaernten province, special payments are exempted from contribution payments. This exception (the case of Kaernten) is currently disregarded in the model.

2.3.14 Employers' Contribution to Family Benefits Fund („Beitrag zum Familienlastenausgleichsfonds", `ERSICfamben_AT`)

The contribution is paid by all employers (except for employers of civil servants, *iscivsrv=-1*) on the sum of all wages paid in the business. If this sum is lower than 20,000 ATS/per month then it is reduced by 15,000 ATS. This detail is not taken into account in the model, because we don't know the sum of all wages. The contribution is 4.5% of the wages without upper limit. The income concept used to calculate this contribution is *empY*.

2.3.15 Employers' Contribution to Insolvency Fund ("Zuschlag Insolvenzentgeltsicherungsgesetz (IESG)", `ERSICbank_at`)

Insolvency Compensation Fund was established in 1978 to protect employees of insolvent companies. The fund takes over the payment of wages and social security contributions for 3 months as soon as insolvency proceedings are instituted. If staff members are dismissed during that time, the fund takes over payments during the period of notice and is also responsible for compensation payments. Contributions to the fund are made by the employers, who pay 0.7% of the total payroll with regard to the contribution base (for all those employees for whom they are liable to pay unemployment insurance contributions). The contribution base limits are the same, as in the case of other contributions. When the employee does not receive any special payments the contribution is payable on wages between 3,830 and 49,000 ATS/month; when special payments are received, the threshold is 3,830 ATS for the regular payments, while the ceiling is 42,000 ATS monthly. Employers also have to contribute on special payments below 84,000 ATS annually.

2.4 Benefits

2.4.1 Minimum pension (top-up) ("Ausgleichszulage", `IBEN_MinPen_AT`)

Minimum pension is paid in order to provide pensioners a minimum level of income, so people are eligible to this top-up benefit only if they are already entitled to pensions. This minimum level was 7,992 ATS/month in 1998 for single persons (*SingPay*).[9] The considered income (*MinPen_means*) contains all pensions, maternity allowance supplement, pregnancy benefit, investment income, other irregular lump-sum benefits, maintenance income, maternity payment, other regular primary

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[9] For survivor pensions the same amount applies; for orphan pensions there are different amounts depending on age and status single/double orphan

income, private transfers and other regular cash payments. 13th and 14th monthly payments are disregarded when computing the means. For married persons in the same household, the minimum pension level was set to 11,403 ATS/month, for each own child in the household, an additional amount of 851 ATS is added to the minimum pension level. The child must be under 18, if he/she is older than 18 but under 27, then the child is treated a "child" from the benefit point of view only if he/she is in full time education or disabled and earns less than 2,984 ATS/month. [10] So, in practice a pensioner gets *Ausgleichzulage* (the exact English translation might be "supplementary allowance") if his/her pension is less, than the minimum pension level relevant for the family; the amount he/she receives is the difference of the minimum pension level and his/her actual social security pension. Minimum pension top-up is paid 14 times a year (*rate1=2/12*). The relevant benefit unit is the family (*TAX_UNIT=MinPen_family*).

2.4.2 Minimum pension for civil servants (top-up) ("Ergänzungszulage", IBEN_MinPenCS_AT)

All civil servant pensioners under the minimum pension level are eligible for this means tested benefit (*ge_inc=2, IsCivSrv=2*). The means (*MinPenCS_means*) is slightly different from non-civil servant pensioners and contains all pensions, child bonus for pensioners, company shares, unemployment benefits, employment and self-employment income and property income. 13th and 14th monthly payments are disregarded when computing the means. For the additional child amount, the child must be under 18, if he/she is older than 18 but under 26, then the child is treated a "child" from the benefit point of view only if he/she is in full time education or disabled and earns less than 3,831 ATS/month. The relevant benefit unit is the family (*TAX_UNIT=PenChBonCS_family*). All other rules are the same as for non-civil servants.

2.4.3 Child Bonus for Pensioners ("Kinderzuschuss (ASVG)", IBEN_PenChBon_AT)

All pensioners with children (*ge_inc=2, ge_nch=2, ge_nch_lt=1*), who receive public pension (*ge_inc_lt=1, ge_inc_IL=pubpen_ex_minpen_ex_ChBon*) are eligible for this benefit. The child must be under 18, if he/she is older than 18 but under 27, then the child is treated a "child" from the benefit point of view only if he/she is in full time education or disabled. The monthly amount of the benefit is 300 ATS, which is paid 14 times a year, so the actual monthly amount is 350 ATS

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[10] There is a disregard for apprentices of 1,933 ATS/month.

(300*14/12, *SingPay=350*) per child. The relevant benefit unit is the family (*TAX_UNIT=PenChBon_family*).

2.4.4 Child Bonus for Civil Servant Pensioners ("Kinderzulage (PG)", `IBEN_PenChBonCS_AT`)

All persons who receive public pension and have children in household (according to *PenChBonCS_family* definition) are eligible for the benefit. (*ge_inc_lt=1, ge_inc_IL=pubpen_ex_minpen_ex_ChBon, ge_nch_lt=1*). The monthly amount of the benefit is 200 ATS, which is paid 14 times a year, so the actual monthly amount is 233.33 ATS (200*14/12, *SingPay=233.33*). The relevant benefit unit is the family (*TAX_UNIT=PenChBonCS_family*).

2.4.5 Maternity Allowance Supplement Non-Civil Servants ("Zuschuss zum Karenzgeld oder zur Teilzeitbeihilfe", `IBEN_MaterYadd_AT`)

a) No spouse in the household and spouse is not maintaining child

Persons are eligible for this benefit if

- No spouse lives in the same household (*NotIsPartnerInHH1=2*), and

- The other parent does not maintain the child (*le_inc=2, le_inc_IL=maintY*).

Persons are not eligible if they do not receive maternity benefit (*le_inc1=-1, le_inc1_IL= maternity_ben*). The relevant benefit unit is the individual (*TAX_UNIT=individual*). The daily rate of the benefit is 82.2 ATS (*SingPay=82.2*), for receivers of part-time-allowance ("Teilzeitbeihilfe") the half. For the time being we don't have information about part-time-allowance, so we assume that everyone gets the full benefit. As the entitlement to Maternity Allowance ("Karenzgeld") is lost, if the income of the receiver exceeds the limit for minor employment (3,830 ATS/month), we modeled, that entitlement to Maternity Allowance Supplement is lost, if the receiver works more than 12 hours a week (*es_ge_hrs_lt=12*).

b) Living with spouse

Persons are eligible for the benefit if they receive maternity benefit (*ge_inc=1, ge_inc_IL=1*), but eligibility is lost if addition to maternity income is already greater than zero in this unit (*Tubenelig=-1, TUbenelig_name= cosim_polout*). Persons are also not eligible if spouse is not living in the same household (*NotIsPartnerInHH1=-1*). The income concept used for calculating means is *UnempY_means* that includes employment and self-employment income, company shares

and sickness benefit. A monthly amount of 5,696 ATS is disregarded for the spouse's income, and an additional 2,870 ATS/month for each dependent person in the family (*disreg_amt=5,696; depend_disreg_amt=2,870*). The amount of the benefit is 82.2 ATS daily (*SingPay=82.2*), which is suspended according to the same algorithm as in the case of single mothers (see above) if mother is working.

2.4.6 Maternity Allowance Supplement Civil Servants ("Zuschuss zum Karenzgeld oder zur Teilzeitbeihilfe", `IBEN_MaterYadd_AT`)

The rules are the same as for Non-Civil Servant, except that on the one hand the monthly rate of the benefit is 2,500 ATS (*SingPay=2,500*) and therefore somewhat higher; on the other hand, for those living with spouse, a monthly amount of 5,568 ATS is disregarded for the spouse's income, and an additional 2,805 ATS/month for each dependent person in the family (*disreg_amt=5,568; depend_disreg_amt=2,805*) and therefore somewhat lower.

2.4.7 Social Assistance Vienna ("Sozialhilfe Wien: Hilfe zur Sicherung des Lebensunterhaltes" `SBEN_saW_AT`)

Social assistance rules are different in all provinces, but the (formal!) differences in the systems are mainly in the amount of means and disregard-values, that is why we describe here only the system of Vienna province (for details of other provinces see Parameter Sheet). Another point that has to be mentioned is that local authorities can exercise significant degrees of discretion in determining eligibility and amounts of social assistance. In the model we do not attempt to take into account these 'discretionary' dimensions.

Children, persons in education and recipients of minimum pension (incl. civil servants' minimum pension) are not eligible for social assistance (*IsChild1=-1, InEd=-1, TUbenelig1=-1, TUbenelig2=-1, TUbenelig1_name= at_iben_minpen, TUbenelig2_name= at_iben_minpenCS*). The income concept used for calculating means is *sben_meansW* (see details in the Income List). The means is summed up with capital income (*capital_il= SBEN_capital*) for which 10,000 ATS are disregarded for long-time-recipients living alone and 20,000 for cohabiting long-time-recipients. Social assistance is 4,945 ATS per month (*SingPay=4,945*) for singles and 4,822 ATS for supported people with family. If there are dependent persons in the family, the benefit is higher by 2,476 ATS if this person does not receive child benefit, by 1,483 ATS if this person receives child benefit. The benefit unit is the family (*CB_family*, including dependent adults).

Disabled family heads or family heads in pension-age (males above 65, females above 60) receive a monthly flat amount of 2,747 ATS if the benefit unit contains one person; the amount of the supplement is 3,677 ATS/month in case of a more-person benefit unit. In this cases the benefit is also paid 14 times a year instead of 12 times. However, with these two additional payments the need for rent and heating is covered. Families who receive Social Assistance only 12 times a year and "need" rental and/or heating support, receive additional amounts. The upper-limit of rental support is 3,116 ATS/month, the heating support is ATS 483/month (for seven months ATS 828/month).

2.4.8 Newborn health check bonus ("Mutter-Kind-Pass-Bonus", SBEN_CBB_AT)

For mothers undertaking (free) health check after birth, a lump sum of 2,000 ATS is paid if total taxable income of the couple (*TAX_UNIT=couple*) does not exceed 462,000 ATS/year (*ge_inc_lt=462,000; ge_inc_IL=taxableY*). Since we cannot identify mothers who do this check, we assume, that everybody does. Austrian citizens or persons living more than 3 years in Austria receive newborn health check bonus. We assume that people who are not AT/EU citizens are not in Austria for three years or do not take up this benefit.

2.4.9 Small children benefit ("Kleinkindbeihilfe" SBEN_SCB_AT)

Austrian citizens or persons living more than 3 years in Austria receive small children benefit, if they do not get any kind of maternity benefit (*ge_inc=-1, ge_inc_IL=maternity_ben*). The unit must be eligible as a whole; with other words benefit unit is the couple (*TAX_UNIT=couple*). In addition the unit's taxable income (*earnings_IL=taxableY*) must not exceed a monthly limit of 11,403 ATS plus 851 ATS per child. If the unit is eligible, then receives 1,000 ATS/month.

2.4.10 Family Bonus - Vienna ("Wiener Familienzuschuss", SBEN_fambonW_AT)

In this section we describe family bonus rules in Vienna province, which (in its logic) is similar to the rules of other provinces, so we do not provide detailed description of other provinces here (for details see Parameter Sheet).

Austrian citizens living in Vienna for at least one year or other persons living more than 3 years in Vienna (*Eq_Var1=2, Eq_Var1_name=atPROVNC, Eq_Var1_lt=1*), receive family bonus after children between the age of 1 and 2 (*ge_chage=1, le_chage=2*).

Recipients get different amount depending on the per capita equivalised net income of the family (the income concept *fambonW_netY* is used, for details see Income List). The equivalence scale is the following: 1 for the first adult, 0.8 for other adults, 0.5 for each child, an additional weight of 0.35 is used if the head of unit (*CB_Family*) is a lone parent. Table 8 below, gives the per capita upper limits for the net income and the amount of family bonus received.

Table 8. Per capita upper limits for net income and received family bonus Vienna

Per capita upper limit for net income (ATS/month)	Amount of family bonus (per family)
4,600	2,100
4,700	1,960
4,900	1,820
5,100	1,680
5,300	1,540
5,500	1,400
5,700	1,260
5,900	1,120
6,100	980
6,300	840
6,500	700

2.4.11 Child benefit ("Familienbeihilfe", SBEN_CB_AT*)*

Families receive child benefit for each child in the family (child must be under 19, if he/she is older than 19 but under 26, then must be in full time education or disabled, *TAX_UNIT= CB_Family_age25*). The amount of child benefit is 1,300 ATS/month until children's age of 9; from 10 to 18 the benefit is 1,550 ATS, and families with children between 19 and 25 receive a monthly amount of 1,850 ATS. If the children is disabled, an additional 1,650 ATS/month is added to the benefit.

3. Data

3.1 General description

The dataset used for EUROMOD is the Austrian version of the European Community Household Panel (Production Version), provided by the Interdisciplinary Centre for Comparative Research in the Social Sciences (IFS/ICCR), Vienna.

The Austrian panel was started in 1995 after the country entered the European Union (it is the only household panel in the country). The sample was designed by the Austrian Statistical Office (now Statistics Austria [STATA]) (Giorgi 1996), while the fieldwork was done by two public opinion research institutes, IFES and FESSEL.

For the first version of EUROMOD, we use the fifth Austrian wave (1999) containing income information pertaining to 1998. The dataset contains comprehensive information about labour market situation, living- and income condition of Austrian households. The panel follows about 3-4.000 households with 8-9.000 individuals. The questions regarding to labour market information and income situation are asked from the household members aged 16 or over.

3.2 Sample selection, weighting

As mentioned above, the sampling was designed and drawn by STATA: it is a multistage stratified random sample. The data were collected between October 1999 and February 2000 and contain information about 7,386 individuals in 2,677 households. The detailed description of EUROMOD variables and their source variables from ECHP can be found in Annexes A and B.

The weighting was done by EUROSTAT following the Iterative Proportional Fitting Method of Demming (Giorgi 1996) in four stages. First the design weights were computed to correct the differences in selection probabilities, then non-response weights were added. During the third stage the households weights were calculated, using the following classification variables: household type and size, type of community, tenure, number of economically active persons, distribution of economically active population aged 16 or more. Finally the individual correctional weights were associated with the previous weights to adjust the distribution of the population at the individual level according to age, gender, education and occupational level.

3.3 Net to gross conversion

For calculating gross values from net income data, we followed different approaches for different income components. A description of the 'grossing-up' methods can be found in Annex A.

4. Validation

4.1 Aggregate validation

4.1.1 Distribution of employment income

Since employment income is a main source for the simulation we present here two tables (9 and 10) that allow us to make comparisons with official income statistics[11]. In the EUROMOD database mean of gross employment income is 31,498 ATS/month for males, 18,289 ATS for females and 26,002 ATS for both genders. The reference values are 30,908 ATS for males, 18,525 ATS for females and 25,470 for the whole population (Rechnungshof 2000, 162), implying that all in all we slightly overestimate aggregate employment income[12]. We get a more detailed picture if we compare decile information for EUROMOD data with external sources. Table 10 shows that we overestimate employment more at the bottom deciles. The mismatch of ECHP based net earnings for lower deciles is known and documented in Till/Tentschert (2000). Some of the discrepancies documented in Table 10 might also be a result of our methodology for converting income information from net to gross (see section 3.3).

Table 11 shows the distribution of employees' gross income by gender and type of employment (excluding apprentices and "minor" wages). Compared to the reference figures (Statistik Austria, http://www.statistik.gv.at a) for all types of employment together (blue collar, white collar, public sector) the incomes are all in all slightly overestimated by EUROMOD. Nevertheless, an under estimation occurs with white-collar-workers, especially with higher incomes of males.

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[11] In the Data Requirement Document we present the descriptive statistics of variables used in EUROMOD database.

[12] We use the same definition for monthly income as in Statistik Austria 2001a, namely 1/12 of the annual employment income.

4.1.2 Distribution of pension income

Table 17 shows the distribution of pensioners' yearly gross income by gender and age. While – because of low cell sizes – concerning younger people there is quite a disparity between EUROMOD estimates and reference statistics (Statistik Austria 2001b, 263), concerning people 55+ the correspondence seem to be acceptable. For the distribution of pensioners' yearly net income (table 18), the results are less satisfying, as EUROMOD underestimates the pension-incomes of people 55+ by large.

4.1.3 Distribution of household income

As many benefits are means-tested and depend on the (equivalised) household-income, the tables 12-16 show the net-household-incomes by number of children in household, type of employment of head of household, labour market status of head of household, age of head of household and numbers of earners in household generated by EUROMOD compared to reference statistics (Statistik Austria 2000b, 710; Statistik Austria 2001c, 839; Statistik Austria 2002, 99; Statistik Austria, http://www.statistik.at b). All in all, (equivalised) household-incomes seem to be underestimated by EUROMOD; but note that the reference-statistics are for the years 1999/2000.

4.1.2 Validation of simulated tax/benefit components

Since for Austria, EUROMOD is the first microsimulation model we can compare our simulated components only to reference sources, namely to available official statistics. In most cases the reference statistics are accessible, but for some components we could not find any official sources. The results of our simulation and the number of tax-payers/benefit receivers are shown in Tables 19 and 20.

For *unemployment insurance contributions* (only non-civil servants and their employers pay this contributions) we estimate 99% of the real sum of contributions paid. The small underestimation appears despite the fact, that we cannot identify "Freie Dienstnehmer" (in 1998 about 15.000) who do not pay contributions while in EUROMOD we assume all people with employment income according to ASVG to pay contributions.

The simulated *pension insurance contributions for employees* (excl. civil servants and voluntary contributions) are also close to reality: in EUROMOD we simulate 97% of the contributions paid in. This ratio is based on the sum of employees' and employers' contributions. We slightly under-estimate pension insurance contributions despite the fact that we over-estimate employers' contribution for people on "minor" wages, which is 12.55%. In 1998 162,000 persons received less than 3,830 ATS/month, while in the EUROMOD database this figure is much higher (196,000). In

the simulations, we will tend to overestimate the contributions paid for these people because in reality the business only has to pay contributions if the sum of wages for all people on "minor" wages in this business is at least 1.5 times the minor wage limit. In EUROMOD, however, we assume that this is always the case since we cannot identify the sum of wages paid in a business.

For *health insurance contributions for employees* (incl. civil servants), *unemployed and pensioners* the ratio of simulated and actual sum of contributions is 118%. Only to a small extent we can explain this with the over-estimated number of people on minor wages and the resulting overestimation of employer-contributions on minor wages, which is 3.85%. Another reason might be that we assumed every blue-collar-worker as covered by EFZG, which results for those not covered by EFZG in higher employer contributions of 1.7 percentage-points than in reality which outnumbers the lesser employee contributions of 0.6 percentage-points.

The simulated results of *self-employed contributions to pension insurance* are surprisingly good (89% of real contributions), given the usual under-reporting problem of self-employment. This may to a small part be due to the fact that we cannot identify whether someone is a member of the Austrian Economic Chamber (a higher threshold would apply for members, see for details the system description). In addition we assumed every farmer as "Betriebsführer", for whom both threshold and upper limit are much higher. In the other direction go the facts, that we do not take into account "Weiterversicherung" in BSVG, GSVG and FSVG and that we assume all self-employed people not to pay a special contribution for a birth-related benefit ("Betriebshilfe" 0.05%), which in reality applies for a particular subgroup.

The *contributions of self-employed to health insurance* are also under-estimated (76%), partly explained by the fact that we underestimate the number of contribution payers by more than 10%.

Simulated *housing subsidy contributions* (including employers and employees) are about 106% of the actual budgetary revenues.

The validation of *employees' compulsory union contributions* is currently not possible, since we do not currently have access to appropriate reference statistics.

Contributions to disability insurance (paid by employers and self-employed) are exactly estimated.

The *employers' contributions to family benefit funds* (only paid by employers of non-civil servants) are overestimated in EUROMOD by 7%.

The *employer's contributions to bankruptcy fund* (only paid for those employees for whom employers are liable to pay unemployment insurance contributions) are overestimated by 13%.

EUROMOD simulates 92% of actual *income tax* revenues[13] (excluding withholding tax on investment income).

However, the results for *tax on investments* are very bad. The model simulates 5% of real revenues. We believe that there are several important reasons for this and are pessimistic as to the scope of distinctly improving this ratio in the short term as long as household survey data are used as the basis for modelling. On one hand, we suspect a serious under-reporting problem due to the fact that people may (a) not be aware of all incomes which would fall under investment income and are taxed as such; (b) be reluctant to give an indication of their financial wealth by revealing their investment income. The latter reason may be particularly relevant in Austria where there is a long tradition of "anonymous" savings accounts. We also suspect anonymity to be the cause for another major reason for the underestimation of investment tax revenues. By and large, investment taxes in Austria are deducted at source. Taxpayers (both Austrian and foreign) could only have investment income assessed together with other income if they officially registered their bank accounts under their name – thus foregoing any advantages of anonymity. Anonymous saving accounts are likely to have attracted major inflows of money from abroad – money which is, of course, not visible in any domestic household survey even if there was no under-reporting problem. Since anonymity has been largely outlawed in recent years, we would expect the actual revenues under this category to decline in the future (and, thus, the shortfall of simulated EUROMOD results to become smaller as well).

By way of introduction to the validation of benefits, we can say that all means-tested benefits (except small children benefit and newborn health check bonus) are over-estimated in EUROMOD, despite the fact that income from work is also overestimated. A reason of the model's over-estimation is the relatively low take-up ratio in reality for some benefits (in the model, *all* eligible persons receive the benefits. Take-up problems or issues of the degree of discretion exercised by the authorities are not currently taken into account in the simulations).

The model results for *child benefit* ("Familienbeihilfe") are satisfactory: the under-estimation is less than 8%. This result, together with the number of recipients suggests that the number of children is close to reality in the EUROMOD data.

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[13] In EUROMOD, redundancy pay („Abfertigung"), which is taxed with a special tax rate, is not taken into account when computing income taxes. (Redundancy pay is also not part of diposable income concept because only this concept is supposed to show only „regular" income).

Concerning expenditure, the outcome of the *small children benefit* ("Kleinkindbeihilfe") matches exactly the real figures. The underestimation of the number of recipients (1/12) cannot really be explained. Given the amount of benefit (ATS 1.000/month) and the total yearly expenditure (ATS 16 Mio.) than in reality people would get small children benefit only for an average of about one month (whereas according to the law, small children benefit is paid for a maximum of 12 months).

Newborn health-check bonus ("Mutter Kind Pass Bonus") is under-estimated by 2% in EUROMOD despite the fact, that in reality, people only receive this benefit if they do a post-maternity health-check for themselves and their child. In EUROMOD, we assume that everybody has this health check done. Obviously, this assumption is entirely accurate.

For *child bonus for non-civil servant pensioners* ("Kinderzuschuss" ASVG), EUROMOD under-estimates expenditure by 7%. This benefit is tied to receipt of pension. By using detailed (from month to month) labour market status information from ECHP, we could eliminate the over-estimation for people who retire during the year, since we do not give them the benefit for the entire year any longer. Due to the fact, that in our data there is no civil servant pensioner eligible for *child bonus for civil servant pensioners* ("Kinderzulage" PG), we could not simulate this benefit.

For *maternity allowance supplement* ("Zuschuss zum Karenzgeld oder zur Teilzeitbeihilfe"), reference statistics were not accessible, so the validation is to be done at a later stage.

EUROMOD simulates 33% less expenditure on *family bonus* ("Familienzuschuss"), than paid in 1998. The gap also in the number of recipients (under-estimation by 46%) cannot really be explained by the fact that, in reality, all provinces use different regimes for family bonus. However, we do not have a "province" variable in the underlying data (because of data protection issues). So the province has been imputed randomly (ensuring that the number of persons in each province matches external aggregates, but without trying to reproduce the correct distribution household characteristics).

Expenditure on *minimum pension top-up for non-civil servants* ("Ausgleichszulage") is over-estimated in EUROMOD by 15%, but the number of recipients is 39% more, than in reality. This may suggest, that in EUROMOD data there are more pensioners with pensions around the minimum pension level. [14]. Due to the fact, that in our data there is no civil servant pensioner eligible for *minimum pension top-up for civil servants* ("Ergänzungszulage"), we could not simulate this benefit. In addition, reference statistics were not accessible.

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[14] There exists a serious data problem in the ECHP, as is not really identifiable what is pension and what is minimum pension top up.

For *social assistance* ("Sozialhilfe"), EUROMOD simulates about 2.5 times the reference value. This disappointing result is, we believe, mainly due to non-take-up issues. Conservative estimates speak of about 56% non-take-up (Dimmel 2000), but for the time being there are no comprehensive studies on non-take-up in Austria. The simulation of social assistance is especially difficult, because local authorities have broad discretion rights to determine the amount of social assistance (taking into consideration heating costs, rental costs, clothes, etc.). In addition, social assistance has to be paid back by the recipients once they achieve a "sufficient" level of income and even relatives, which are not members of the "benefit unit" can be held liable for social assistance paid out to their family members. These strict and often confusing rules make take-up a particularly important problem in Austria. In addition we suggest that many people who would only be entitled to very low amounts of social assistance do not 'bother' to apply. The poor results are also a related to the province-specific nature of social assistance (see above family bonus) and the problematic point that there are complex rules with regard to eligibility of non-Austrians. We do not attempt to model these rules, but instead do not distinguish between Austrians and foreigners.

Given the very large over-estimation, further investigation is essential. This would include experimenting with eligibility based on receipt of the benefit in the data and clarifying the treatment of citizenship. However, it should be noted that the focus in EUROMOD on formal rules can also be a very valuable contribution to establishing the extent of non-take-up in Austria.

Table 9. Summary statistics of gross employment income in EUROMOD database[*]

	Males	Females	All
Mean	31,498	18,289	26,002
Median	28,249	16,593	23,619
Std. Deviation	19,820	12,290	18,293
Minimum	208	150	150
Maximum	189,160	67,394	189,160
Skewness			
Kurtosis			

[*] Year-twelfth

Table 10. Deciles values of gross employment income in EUROMOD database and reference statistics for 1998[*]

Decile points	EUROMOD - males	Reference - males	EUROMOD – females	Reference – females	EUROMOD - all	Reference - all
1st	8614	4,677	3,421	1,963	5,689	2,850
2nd	17391	12,267	7,319	5,205	10,613	8,071
3rd	22113	19,627	10,438	9,041	15,160	13,229
4th	25096	23,527	13,442	12,740	20,371	18,204
5th	28249	26,792	16,593	16,181	23,619	22,280
6th	32195	30,347	19,897	19,600	27,017	26,046
7th	36606	34,954	22,987	23,338	31,670	30,320
8th	44757	42,047	28,652	28,473	36,867	36,385
9th	55812	56,135	35,002	36,910	48,620	48,147

* 1/12 of annual income. Incl. apprentices and minor wages. Reference statistics: unstandardised incomes (adjusted to 1/12 of annual income).
Source reference statistics: Rechnungshof 2000

Table 11. Employees' Gross-income (ATS/year divided by 12) by gender and type of employment in EUROMOD database and reference statistics for 1998

	Total		Women		Men	
	Reference '98	*Euromod '98*	*Reference '98*	*Euromod '98*	*Reference '98*	*Euromod '98*
Blue Collar						
N	1.265.500	1.035.706	391.400	262.670	874.000	773.036
Quart. Point 1	14.517	14.375	8.108	7.702	19.742	19.766
Median	22.083	22.094	14.167	13.230	25.667	25.235
Quart. Point 3	29.317	29.542	19.483	16.991	32.317	33.319
Mean	22.800	23.629	14.150	13.581	26.675	27.044
White Collar						
N	1.228.400	1.200.348	665.200	601.581	563.200	598.767
Quart. Point 1	15.308	16.074	10.967	12.330	26.850	25.877
Median	26.708	26.158	18.667	18.697	39.708	36.693
Quart. Point 3	42.333	39.910	28.167	26.551	58.167	51.690
Mean	33.725	30.778	21.383	20.771	48.308	40.833
Public sector						
N	705.500	747.848	327.100	337.829	378.400	410.019
Quart. Point 1	21.725	21.510	16.517	17.260	25.367	24.733
Median	28.825	29.036	24.542	24.692	32.183	32.085
Quart. Point 3	38.208	36.923	33.617	32.941	42.408	43.817
Mean	31.217	31.183	25.867	25.418	35.842	35.933
Total						
N	3.199.400	2.991.468	1.383.700	1.207.483	1.815.700	1.783.985
Quart. Point 1	16.033	16.611	10.575	11.480	22.250	22.593
Median	24.950	25.252	18.367	18.343	29.600	29.556
Quart. Point 3	35.267	35.421	26.942	27.043	40.808	40.955
Mean	28.850	28.350	20.392	20.434	35.292	33.708

Notes: reference statistics exclude apprentices and "minor" wages. Since we cannot identify apprentices in EUROMOD data, we exclude people under 18 and "minor" wages (in 1998 <ATS 3.830/month). The gross income concept used is that defined in the income tax code (§25 EstG).
Source reference statistics: Statistik Austria, Income Tax Statistics ("Lohnsteuerstatistik") 1998 and Microcensus 1998, http://www.statistik.gv.at a.

Table 12. Net-household-income (ATS, annual divided by twelve) by number of children in household in EUROMOD database and reference statistics for 1998

	All households		0 children* in household		1 child in household		2 children in household		3 children in household	
	Reference '00	*Euromod '98*	*Reference '00*	*Euromod '98*	*Reference '00*	*Euromod '98*	*Reference '00*	*Euromod '98*	*Reference '00*	*Euromod '98*
Unequivalised										
N	3.241.000	3.238.520	2.123.000	2.208.424	533.000	464.973	436.000	426.449	149.000	138.674
Quartile Point 1	20.342	17.633	17.361	15.374	26.351	23.251	29.860	27.315	32.440	29.720
Median	31.809	27.249	27.314	22.735	37.382	33.293	37.978	34.016	43.150	37.433
Quartile Point 3	44.950	38.897	41.006	35.932	51.200	45.188	50.007	44.991	59.490	46.880
Mean	35.054	31.307	31.328	28.238	40.765	36.631	41.969	38.076	47.473	41.521
Equivalised ("modified" OECD: 1/0.5/0.3)										
N	3.241.000	3.238.520	2.123.000	2.208.424	533.000	464.973	436.000	426.449	149.000	138.674
Quartile Point 1	14.850	13.020	15.274	13.242	15.056	13.066	14.047	13.013	12.476	10.512
Median	19.585	17.181	20.858	17.867	19.448	17.380	16.983	15.459	15.824	13.944
Quartile Point 3	25.422	22.630	27.234	23.946	24.000	21.760	21.122	19.756	19.907	16.798
Mean	21.191	19.015	22.303	19.769	20.411	18.589	18.290	16.866	16.799	15.035

* Child definition according to child benefit: persons under 19 and pupils, students and apprentices
Source reference statistics: Statistik Austria, Household Budget Survey ("Konsumerhebung") 1999/2000, http://www.statistik.at b.

Table 13. Net-household-income[1] (ATS, annual divided by twelve) by type of employment of head of household in EUROMOD database and reference statistics for 1998

	Head of hh[2] employed		Head of hh[2] blue collar		Head of hh[2] white collar		Head of hh[2] public sector contractor		Head of hh[2] civil servant	
	Reference '99	*Euromod '98*	*Reference '99*	*Euromod '98*	*Reference '99*	*Euromod '98*	*Reference '99*	*Euromod '98*	*Reference '99*	*Euromod '98*
Unequivalised										
N	1.551.176	1.902.740	591.775	646.892	561.581	741.554	138.162	174.741	259.677	339.553
Quartile Point 1	22.517	23.261	21.817	22.300	22.400	23.544	20.650	19.719	26.717	25.447
Median	33.133	32.552	31.850	31.003	33.833	33.535	30.683	29.823	36.867	35.870
Quartile Point 3	45.617	44.446	42.467	41.407	47.600	45.130	42.467	41.894	49.933	50.293
Equivalised ("modified" OECD: 1/0.5/0.3)										
N	1.551.176	1.902.740	591.775	646.892	561.581	741.554	138.162	174.741	259.677	339.553
Quartile Point 1	15.633	14.137	13.767	12.373	16.567	15.309	15.633	14.716	18.083	15.473
Median	20.300	18.489	17.967	16.716	21.817	19.969	19.600	18.109	22.867	20.358
Quartile Point 3	25.783	24.203	22.517	20.840	28.350	26.462	24.850	24.266	27.767	26.428

1 excluding child and family benefits; income from reference statistic might be slightly biased, because lower taxes paid on 13th and 14th salary are normally not reflected whereas the are in EUROMOD
2 in EUROMOD: person with highest "primary" income (employment+selfemp.+capital+pension)
Source reference statistics: Statistik Austria 2000b, 710: Microcensus 1999, 2nd Quarter

Table 14. Net-household-income (ATS, annual divided by twelve) by labour market status of head of household in EUROMOD database and reference statistics for 1998

	Main-earner* employee		Main-earner* self-employed (incl. Farmers)		Main-earner* pensioner		Main-earner* unemployed		Main-earner* other status	
	Reference '00	Euromod '98	Reference '00	Euromod '98	Reference '00	Euromod '98	Reference '00	Euromod '98	Reference '00	Euromod '98
Unequivalised										
N	1.784.000	1.902.740	230.000	243.208	1.082.000	945.619	36.000	39.416	110.000	107.537
Quartile Point 1	25.000	24.334	31.150	20.531	14.142	12.899	11.783	10.510	7.083	10.405
Median	34.067	34.002	44.592	28.936	21.442	16.857	18.292	20.679	11.250	15.374
Quartile Point 3	44.958	45.550	55.517	41.896	32.600	23.885	27.817	24.481	17.142	23.233
Mean	36.925	37.109	46.225	34.232	25.817	20.810	21.642	19.704	14.908	18.590
Equivalised ("modified" OECD: 1/0.5/0.3)										
N	1.784.000	1.902.740	230.000	243.208	1.082.000	945.619	36.000	39.416	110.000	107.537
Quartile Point 1	15.275	14.972	17.050	11.105	12.258	11.033	7.717	8.354	6.775	7.802
Median	19.517	18.969	22.633	16.035	16.475	14.358	11.000	10.922	8.908	11.515
Quartile Point 3	24.508	24.453	29.950	21.961	22.500	18.960	15.633	14.964	11.758	15.416
Mean	20.883	20.754	25.450	18.403	18.558	16.694	13.142	12.763	10.467	12.318

* in EUROMOD: person with highest "primary" income (employment+selfemp.+capital+pension)
Source reference statistics: Statistik Austria 2001c, 839: Household Budget Survey ("Konsumerhebung") 1999/2000

Table 15. Net-household-income (ATS, annual divided by twelve) by age of head of household in EUROMOD database and reference statistics for 1998

	All households		Main-earner* aged 29-		Main-earner* aged 30-44		Main-earner* aged 45-59		Main-earner* aged 60+	
	Reference '00	Euromod '98	Reference '00	Euromod '98	Reference '00	Euromod '98	Reference '00	Euromod '98	Reference '00	Euromod '98
Unequivalised										
N	3.241.000	3.238.520	394.000	421.263	1.085.000	1.033.215	820.000	882.142	942.000	901.900
Quartile Point 1	20.342	17.633	17.097	17.841	25.915	24.029	24.551	22.081	15.308	12.895
Median	31.809	27.249	30.548	26.642	35.651	32.686	37.715	33.698	22.693	16.777
Quartile Point 3	44.950	38.897	39.962	38.125	47.393	42.947	52.232	48.408	34.871	24.220
Mean	35.054	31.307	31.477	30.408	38.185	35.550	41.201	37.488	27.601	20.822
Equivalised ("modified" OECD: 1/0.5/0.3)										
N	3.241.000	3.238.520	394.000	421.263	1.085.000	1.033.215	820.000	882.142	942.000	901.900
Quartile Point 1	14.850	13.020	13.680	13.595	15.274	13.918	16.432	14.662	13.153	10.498
Median	19.585	17.181	19.322	17.246	19.700	17.600	21.443	20.066	17.625	14.304
Quartile Point 3	25.422	22.630	23.496	21.445	25.422	22.759	28.071	25.569	23.874	18.637
Mean	21.191	19.015	19.047	17.787	21.535	19.515	23.198	21.485	19.952	16.599

* in EUROMOD: person with highest "primary" income (employment+selfempl.+capital+pension)
Source reference statistics: Statistik Austria 2002, 99: Household Budget Survey ("Konsumerhebung") 1999/2000

Table 16. Net-household-income (ATS, annual divided by twelve) by number of earners in household in EUROMOD database and reference statistics for 1998

	All households		0 earners in household		1 earner in household		2 earners in household		3+ earners in household	
	Reference '00	*Euromod '98*	*Reference '00*	*Euromod '98*	*Reference '00*	*Euromod '98*	*Reference '00*	*Euromod '98*	*Reference '00*	*Euromod '98*
Unequivalised										
N	3.241.000	3.238.520	1.058.000	980.033	1.150.000	1.178.721	814.000	815.741	220.000	264.025
Quartile Point 1	20.342	17.633	13.359	12.500	21.351	18.147	35.559	32.476	50.787	42.393
Median	31.809	27.249	19.723	16.608	29.092	24.356	43.494	38.752	62.701	52.632
Quartile Point 3	44.950	38.897	28.793	23.365	38.173	32.587	53.573	49.032	74.569	64.303
Mean	35.054	31.307	23.198	20.029	31.809	27.551	46.865	42.740	65.258	54.616
Equivalised										
N	3.241.000	3.238.520	1.058.000	980.033	1.150.000	1.178.721	814.000	815.741	220.000	264.025
Quartile Point 1	14.850	13.020	11.834	10.399	14.873	13.020	18.840	16.067	20.514	16.034
Median	19.585	17.181	15.973	13.921	18.473	17.051	22.750	20.187	23.782	20.373
Quartile Point 3	25.422	22.630	22.154	18.483	24.333	22.529	28.472	25.697	28.071	24.586
Mean	21.191	19.015	18.198	16.092	20.801	18.844	24.677	22.120	24.791	21.028

Source reference statistics: Statistik Austria 2002, 99: Household Budget Survey ("Konsumerhebung") 1999/2000

Table 17. Pensioners' Gross income received by residents in Austria (ATS/year) in EUROMOD database (1998) and reference statistics (1999)

age group	Reference '99					EUROMOD '98					
	No. Persons	Quartile Points			Mean	no. Persons	cell size	Quartile Points			mean
		1	2	3				1	2	3	
	Total							Total			
< 20	28.032	29.066	42.706	55.964	48.934	7.126	9	17.460	52.699	88.695	72.102
20 - 29	10.961	42.415	69.309	108.914	80.141	11.750	11	58.288	109.207	145.368	116.454
30 - 39	14.886	76.262	114.468	133.729	119.935	16.330	14	113.637	157.808	289.347	212.393
40 - 49	35.633	96.611	116.382	174.324	148.458	27.748	29	113.122	127.000	181.411	160.072
50 - 54	43.288	110.529	146.820	234.317	191.732	56.123	49	117.781	174.087	306.276	274.148
55 - 59	198.646	114.468	181.944	278.284	217.122	220.341	225	127.425	208.500	323.994	248.495
60 - 64	299.743	114.468	197.743	298.829	233.034	277.606	277	116.341	203.063	302.416	254.053
65 - 69	296.112	114.468	193.573	291.872	232.572	324.709	312	119.280	189.336	285.845	232.187
70 - 74	293.094	114.468	194.612	302.968	240.916	297.137	259	116.881	178.617	274.356	217.552
75+	553.159	111.318	157.590	255.606	206.208	517.274	360	115.464	150.687	228.541	207.211
Total	**1,773.554**	**113.435**	**171.732**	**275.614**	**216.599**	**1,756.144**	**1.545**	**116.364**	**174.552**	**276.192**	**226.450**

Table 17. Continuation

age group	Reference '99						EUROMOD '98					
	no. Persons	Quartile Points			mean	No. Persons	cell size	Quartile Points			mean	
		1	2	3				1	2	3		
	Women						**Women**					
< 20	14.527	29.331	42.706	56.529	49.618	1.958	3	56.842	57.427	61.130	59.982	
20 - 29	5.510	42.476	67.903	105.359	77.591	6.603	7	77.916	130.979	145.219	116.451	
30 - 39	7.794	76.262	114.468	130.764	117.048	13.961	12	113.792	141.076	239.619	203.734	
40 - 49	20.053	90.455	114.468	160.646	142.496	20.493	21	112.726	120.268	185.919	153.510	
50 - 54	22.649	95.894	118.054	187.844	161.419	29.150	25	102.688	129.984	201.305	174.042	
55 - 59	123.168	106.942	150.293	233.010	185.880	130.627	124	105.745	148.671	258.024	195.858	
60 - 64	144.224	87.868	130.472	209.174	168.988	117.876	118	74.808	115.636	189.336	155.221	
65 - 69	140.295	89.352	128.225	207.620	167.973	140.280	127	111.632	120.078	184.630	166.754	
70 - 74	156.031	101.701	140.766	230.896	185.259	164.049	127	111.962	130.908	211.548	167.053	
75+	371.800	102.524	127.884	205.548	170.959	352.125	222	114.719	118.408	181.576	171.049	
Total	**1,006.051**	**95.222**	**129.850**	**209.783**	**170.841**	**977.122**	**786**	**112.216**	**123.636**	**199.513**	**170.766**	

Table 17. Continuation

age group	Reference '99						EUROMOD '98					
	no. Persons	Quartile Points			mean	no. Persons	cell size	Quartile Points			mean
		1	2	3				1	2	3	
Men							**Men**					
< 20	13.505	28.758	42.642	55.268	48.198	5.168	6	17.460	26.277	132.438	76.694
20 - 29	5.451	42.406	70.712	112.204	82.719	5.147	4	45.036	65.112	120.022	116.456
30 - 39	7.092	76.262	114.468	139.725	123.107	2.369	2	101.160	165.083	165.083	263.420
40 - 49	15.580	106.862	130.506	186.937	156.132	7.255	8	103.240	134.057	178.416	178.609
50 - 54	20.639	115.670	181.495	270.689	224.997	26.973	24	156.737	220.797	339.564	382.333
55 - 59	75.478	163.236	242.127	325.174	268.103	89.714	101	203.835	275.747	363.752	325.136
60 - 64	155.519	182.728	259.505	344.641	292.429	159.730	159	174.832	256.160	372.960	326.988
65 - 69	155.817	175.405	250.862	337.256	290.735	184.429	185	175.968	235.392	326.644	281.956
70 - 74	137.063	173.612	255.867	353.212	304.275	133.088	132	166.146	244.860	334.398	279.798
75+	181.359	152.427	232.425	330.135	278.470	165.149	138	114.719	118.408	181.576	284.314
Total	**767.503**	**156.924**	**239.218**	**332.151**	**276.578**	**779.022**	**759**	**166.523**	**235.392**	**339.779**	**296.295**

Sources: EUROMOD

Reference statistics: Statistik Austria 2001b, 263: Income Tax Statistics (Lohnsteuerstatistik 1999 – Sozialstatistische Auswertungen). The gross income concept used is that defined in the income tax code (§25 EStG).

Table 18. Pensioners' Net income (§25 EstG minus contribution and PAYE income taxes) received within Austria (ATS/year) in EUROMOD database (1998) and reference statistics (1999)

age group	Reference					EUROMOD					
	no. Persons	Quartile Points			mean	no. Persons	cell size	Quartile Points			mean
		1	2	3				1	2	3	
	Total							Total			
< 20	28.032	28.929	42.692	54.851	47.447	7.126	9	13.492	42.376	75.086	55.085
20 - 29	10.961	42.099	67.344	102.826	75.573	11.750	11	47.885	91.550	112.813	90.952
30 - 39	14.886	76.262	110.176	127.960	111.483	16.330	14	92.099	137.517	178.775	141.297
40 - 49	35.633	92.706	114.098	158.250	133.993	27.748	29	93.348	104.790	141.151	118.071
50 - 54	43.288	105.991	138.229	199.964	164.941	56.123	49	94.915	143.480	191.620	175.792
55 - 59	198.644	110.176	162.972	229.472	182.664	220.341	225	109.665	149.965	210.916	165.989
60 - 64	299.742	110.176	174.009	243.144	193.322	277.606	277	94.860	149.986	211.948	170.006
65 - 69	296.112	110.176	171.450	238.440	192.831	324.709	312	97.372	146.381	199.670	160.990
70 - 74	293.094	110.176	171.852	245.926	198.182	297.137	259	95.062	136.463	192.203	154.612
75+	553.159	107.076	145.143	213.992	173.234	517.274	360	94.582	122.055	163.162	146.536
Total	**1,773.551**	**108.959**	**156.663**	**227.672**	**180.979**	**1.756.144**	**1.545**	**116.364**	**174.552**	**276.192**	**156.419**

Table 18. Continuation

age group	Reference					EUROMOD					
	no. Persons	Quartile Points			mean	no. Persons	cell size	Quartile Points			mean
		1	2	3				1	2	3	
	Women					**Women**					
< 20	14.527	29.170	42.706	55.476	48.088	1.958	3	45.771	46.355	49.738	49.869
20 - 29	5.510	42.263	66.271	100.097	73.696	6.603	7	63.209	102.786	112.699	93.389
30 - 39	7.794	76.262	110.176	125.860	109.678	13.961	12	92.033	131.086	158.708	137.049
40 - 49	20.053	87.034	110.176	147.786	129.278	20.493	21	92.840	98.112	146.830	117.204
50 - 54	22.649	92.004	114.468	167.563	142.747	29.150	25	93.485	102.578	149.640	124.027
55 - 59	123.167	102.639	140.655	199.257	160.816	130.627	124	94.601	120.337	182.464	134.990
60 - 64	144.224	84.670	125.518	182.117	146.748	117.876	118	65.725	94.561	139.263	113.113
65 - 69	140.295	86.094	123.343	180.430	145.717	140.280	127	92.976	98.284	144.010	122.505
70 - 74	156.031	97.900	134.525	196.760	158.382	164.049	127	93.347	106.483	151.498	123.699
75+	371.800	98.642	122.334	178.723	148.175	352.125	222	93.603	99.383	139.248	125.976
Total	**1,006.050**	**91.534**	**124.532**	**182.123**	**148.108**	**977.122**	**786**	**112.216**	**123.636**	**199.513**	**124.292**

Table 18. Continuation

age group	Reference					EUROMOD					
	no. Persons	Quartile Points			mean	no. Persons	cell size	Quartile Points			mean
		1	2	3				1	2	3	
	Men					**Men**					
< 20	13.505	28.614	42.406	54.030	46.756	5.168	6	13.492	20.722	107.771	57.061
20 - 29	5.451	41.867	68.630	106.602	77.471	5.147	4	36.099	52.573	97.690	87.825
30 - 39	7.092	76.262	110.176	133.294	113.465	2.369	2	94.564	122.837	122.837	166.333
40 - 49	15.580	102.368	124.825	168.943	140.062	7.255	8	96.345	105.852	140.213	120.519
50 - 54	20.639	113.238	163.866	223.723	189.297	26.973	24	140.496	179.098	220.786	231.735
55 - 59	75.477	149.941	204.207	259.648	218.316	89.714	101	151.787	186.916	240.465	211.124
60 - 64	155.518	163.936	216.515	273.718	236.514	159.730	159	141.160	184.501	242.929	211.991
65 - 69	155.817	159.680	210.636	268.923	235.252	184.429	185	139.263	174.581	223.061	190.262
70 - 74	137.063	158.302	214.050	279.809	243.489	133.088	132	135.272	173.258	225.034	192.717
75+	181.359	142.377	197.927	264.390	224.607	165.149	138	131.007	152.847	211.207	190.373
Total	**767.501**	**145.514**	**202.782**	**265.361**	**224.067**	**779.022**	**759**	**134.986**	**174.581**	**225.223**	**196.716**

Sources: EUROMOD

Reference statistics: Statistiks Austria 2001b, 263: Income Tax Statistics (Lohnsteuerstatistik 1999 – Sozialstatistische Auswertungen). Reference figures are for 1999 while EUROMOD figures are for 1998.

Table 19. Comparison of simulated taxes/contributions with external sources

Taxes and contributions simulated (ATS million/year)	EUROMOD (a)	External source[*] (b)	Ratio (a)/(b)	EUROMOD N (1,000) (d)	External source N (e)	Ratio (d)/(e)
Unemployment insurance contributions	47,048	47,674 (1)	0.99	2,510	2,523	0.99
Pension insurance employees (excl. civil servants and voluntary contributions)	177,656	183,645 (1)	0.97	2,509	2,632	0.95
Pension insurance self-employed	12,797	14,339 (2)	0.89	293	442 (2)	0.66
Health insurance employees (excl. voluntary contributions)	120,001	101,607 (1)(3)	1.18	4,672	4,992 (4)	0.94
Health insurance self-employed	6,956	9,201 (5)	0.76	256	287 (5)	0.89
Housing subsidy contributions	8,134	7,676	1.06	3,932	n.a.	
Employees' compulsory union contributions	2,995	n.a.		2,235	n.a.	
Contribution to disability (accident) insurance	13,405	13,361 (6)	1.00	3,508	4,251 (7)	0.83
Employers' contribution to family benefits fund	37,622	40,520	0.93		n.a.	
Employers' contribution to bankruptcy fund	5,415	4,775	1.13		n.a.	
Income tax	221,264	240,208	0.92	3,663	n.a.	
Tax on investments	1,462	26,685 (8)	0.05	937	n.a.	

(1) Employees and employers
(2) GSVG/FSVG+BSVG+NVG
(3) incl. unemployed and pensioners; incl. EFZG-contribution
(4) incl. unemployed and pensioners
(5) Tradesmen+farmers incl. compulsorily insured relatives
(6) Employers and self employed
(7) Employees and self employed; without students, pupils
(8) KEST+KEST on interests

Sources: BMSG 2000, Hauptverband der österreichischen Sozialversicherungsträger 1999a, Hauptverband der österreichischen Sozialversicherungsträger 1999b, Kammer für Arbeiter und Angestellte 2001, Kammer für Arbeiter und Angestellte 2002, Statistik Austria 2001a, Statistik Austria http://www.statistik.at c.

Table 20. Comparison of simulated benefits with external sources

Benefits simulated (ATS million/year)	EUROMOD (a)	External source[*] (b)	Ratio (a)/(b)	EUROMOD N (1,000) (d)	External source N (e)	Ratio (d)/(e)
Child benefit	32,298	34,890 (1)	0.93	1,093	1,090 (2)	1.00
Small children benefit	16	16	1.00	1	12	0.08
Newborn health check bonus	83	81	1.02	41	41	1.00
Child bonus for pensioners (non-civil servants)	343	370	0.93	63	63 (3)	1.00
Child bonus for pensioners (civil servants)	0	23 (4)		0	10 (4)	
Maternity allowance supplement	144	n.a.		5	8	0.63
Family bonus	432	645 (5)	0.67	21	39 (6)	0.54
Minimum pension top-up (non-civil servants)	12,548	10,956 (7)	1.15	348	251 (7)	1.39
Minimum pension top-up (civil servants)	0	n.a.		0	n.a.	
Social assistance	6,139	2,383 (8)	2.58	136	56 (9)	2.43

(1) incl. federal and regional authorities (Gebietskörperschaften/Selbstträger); without: 31,726
(2) Receivers incl. federal and regional authorities (Gebietskörperschaften/Selbstträger); Children incl. Selbstträger: 1,840
(3) Bonuses December 1998
(4) 1995
(5) incl. Kärnten 1999
(6) incl. Kärnten 1999; excl. Erziehungszuschuss II Tirol
(7) incl. widows, orphans
(8) General social assistance excl. Sickness-help (Krankenhilfe)
(9) Single supported people, main-supported people, additional supported people (Allein-, Haupt- und Mituntersttützte)
[*] Sources: BMSG 2001, Hauptverband der österreichischen Sozialversicherungsträger 1999b, Kammer für Arbeiter und Angestellte 1999, Kammer für Arbeiter und Angestellte 2001.

The number of civil servants in the EUROMOD database might also play an initial role in how simulated contributions fit to the real figures. To explain the differences in the number of civil servants between our database and the reality, we have to clarify what we mean under the term 'civil servant'. In the EUROMOD dataset we use the following definition of civil servants: all persons who were employed in the public sector in the year 1998 and all other persons (including students, inactive and pensioners population), who ever had been civil servants. This definition is necessary in order to simulate benefits and some contributions paid by for former civil servants. Table 21 shows the distribution of civil servants in the EUROMOD database according to employment status. We can see that approximately 470,000 persons are employed as civil servants; the remaining almost 10,000 people belong to other employment statuses. The number of currently employed civil servants seems to be too high in comparison to the official statistics, where the reference figure is 363,597 (Hauptverband der österreichischen Sozialversicherungsträger 1999a, 22). This over-estimation of the number of civil servants means that we underestimate non-civil servant employees, and as a result we might over- or underestimate contributions where civil- and non-civil servants pay according to different rules.

Table 21. Distribution of civil servants in EUROMOD database according to employment status

	Non-civil servant	Civil servant	Total
Pre-school	556,947	0	556,947
Farmer	162,612	0	162,612
Employer or self-employed	206,629	0	206,629
Employee	2,636,433	467,729	3,104,162
Pensioner	1,674,133	4,516	1,678,649
Unemployed	127,671	0	127,671
Student, Pupil	1,258,846	1,917	1,260,763
Inactive	672,916	3,055	675,971
Sick/Disable	14,994	0	14,994
Other	151,183	419	151,602
Total	7,462,364	477,636	7,940,000

4.2 Income distribution and poverty estimates

In EUROMOD estimates, Gini-coefficient for equivalised disposable (EDI) income of the whole population is very similar, to other calculations based on ECHP (although it would be desirable to compare EUROMOD results to a database different from the one that is used as an input into the model[15], the comparison does have some value because we *simulate* a significant part of disposable income). However, looking at Gini for EDI of the poor population, the coefficient produced by EUROMOD is much lower.

The decile values are (apart from the 9th decile point) almost the same in the two estimates, as well as the poverty lines and poverty rates (exeception: percentage of people below 70% median). The poverty rate is not lower (in spite of the significant over-estimation of social assistance expenditures) in EUROMOD, because social assistance composes only an insignificant part of disposable income in Austria (Förster et al. 2001). As a result, incomes of households receiving social assistance will often still remain below the poverty line. The lower poverty deficit in EUROMOD is consistent with the overestimation of social assistance.

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[15] We plan this comparison with other sources at further stages of the EUROMOD project.

Table 22. Income distribution and poverty comparisons

	EUROMOD[16]	ECHP (1998)[17]
Overall population		
Gini-coefficients of EDI	0.23	0.25
"Poor" population[18]		
Gini-coefficients of EDI	0.10	0.30
Overall population		
Decile points (equ. ATS/month; 1/12)		
1st	10,163	10,105
2nd	12,351	
3rd	14,070	
4th	15,463	
5th	17,181	17,272
6th	18,920	
7th	21,204	
8th	24,099	
9th	29,072	30,456
Overall population		
Poverty line (60% of the median)	10,309	10,360
Below 60% of median	10.7%	11.0%
Poverty deficit[19] (bn ATS/year)	13,01	15,78
Poverty line (50% of the median)	8,591	8,602
Below 50% of median	3.8%	4.0%
Poverty line (70% of the median)	12,027	12,085
Below 70% of median	18.3%	20.0%

Source ECHP: ICCR 2001a, 21, 74, 104, 113; ICCR 2001b Table 1.2.3

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[16] EUROMOD simulations are based on 1998 income data from ECHP. Household disposable income is equivalised using modified OECD scale (1-0.5-0.3). Poverty rates refer to individuals.

[17] The estimates are based on ECHP data, containing income data from 1998. The disposable income is equivalised by modified OECD scale, as well.

[18] "Poor" households have per-capita household disposable income below 60% of the median.

[19] Poverty deficit is the mean difference of disposable income of poor from the poverty line multiplied with persons concerned.

Breakdowns of poverty headcounts by age and gender show also a good correspondence between EUROMOD estimates and ECHP-analysis. However, quite big differences appear with women aged 0-19 below 50% median, men aged 0-19 below 70% median, women aged 20-60 below 70% median and women aged 61+ below 50% median.

Table 23. Poverty headcounts by age and gender

	EUROMOD[20]		ECHP (1998)[21]	
	Men	Women	Men	Women
Age 0-19				
Below 50% of median	4,2%	4,5%	4,0%	7,0%
Below 60% of median	11,1%	13,0%	11,0%	13,0%
Below 70% of median	22,0%	22,1%	25,0%	24,0%
Age 20-60				
Below 50% of median	3,7%	3,4%	4,0%	4,0%
Below 60% of median	6,9%	8,6%	8,0%	9,0%
Below 70% of median	12,2%	15,5%	14,0%	18,0%
Age 61+				
Below 50% of median	2,9%	4,1%	1,0%	2,0%
Below 60% of median	13,1%	20,0%	12,0%	21,0%
Below 70% of median	21,4%	29,5%	22,0%	30,0%

Source ECHP: ICCR 2001a, 79

[20] EUROMOD simulations are based on 1998 income data from ECHP. Household disposable income is equivalised using modified OECD scale (1-0.5-0.3). Poverty rates refer to individuals.

[21] The estimates are based on ECHP data, containing income data from 1998. The disposable income is equivalised by modified OECD scale, as well.

Annex A : Database Documentation, Data Requirements for EUROMOD

Annex B : EUROMOD Database Robustness Assessment Exercise (DRAE)

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