#### **COUNTRY REPORT: AUSTRIA**

#### 1. DESCRIPTION OF THE INDIRECT TAX SYSTEMS

This section describes the indirect tax system for Austria. First we explain the value added tax rates, which goods and services they apply on, and which exemptions there are to the standard rates. We then summarize excises for each product category. Finally, we list the other notable indirect taxes besides VAT and excises. Information generally refers to June 30<sup>th</sup> in a given year, unless specified otherwise.

# 1.1 Value Added Tax

The most important tax rates are the general tax rate of 20% (regular tax rate) and the reduced tax rates of 10% and 13%. The reduced tax rate of 13% instead of 12% has to be applied from 1.1.2016. Certain goods and services were transferred from the reduced tax rate of 10% to the special reduced tax rate of 13%. Form 1.5.2016 the special reduced tax rate of 13% applies for further goods and services.

# Table 1: Overview of changes in VAT rates (2010-2016)

	2010-2015	2016
Standard	20%	20%
Reduced 1	10%	10%
Reduced 2	12%	13%
Reduced (exclaves)	19%	19%

Source: www.ris.bka.gv.at; Umsatzsteuergesetz 1994, § 10

The VAT rates apply to specific product categories, which are listed in Table 14 in annex.

Over the years 2010 to 2015 VAT revenue amounted to approx. 15-16% of government revenues and to 8% of GDP (see Table 2).

#### Table 2: VAT revenue 2010-2015

	2010	2011	2012	2013	2014	2015
million euro	22764	23498	24601	24978	25467	26326
% of government revenues	16.0	15.7	15.8	15.6	15.5	15.4
% of GDP	7.7	7.6	7.8	7.7	7.7	7.8

Source: Statistics Austria, OECD

## 1.2 Excise duties and prices

Excise duties are levied on energy products, tobacco products, and alcoholic beverages. Below we summarize the most important excises impacting Austrian households.

# 1.2.1 Energy products

Directive 2003/96/EC of the Council of 27 October 2003 restructures the Community framework for the taxation of energy products and electricity. Austrian excises on energy products were increased in 2011, and have remained nominally constant over the period 2011-2016.

	2011	2012	2013	2014	2015	2016	unit
Petrol							
Leaded petrol (low sulphur)	554	554	554	554	554	554	1000 litre
Leaded petrol (high sulphur)	587	587	587	587	587	587	1000 litre
Unleaded petrol (low sul.)	482	482	482	482	482	482	1000 litre
Unleaded petrol (high sul.)	515	515	515	515	515	515	1000 litre
<u>Gas oil</u>							
Propellant (low sulphur)	397	397	397	397	397	397	1000 litre
Propellant (high sulphur)	425	425	425	425	425	425	1000 litre
Heating (low sulphur)	98	98	98	98	98	98	1000 litre
Heating (high sulphur)	128	128	128	128	128	128	1000 litre
Liquefied Petroleum Gas							
Propellant	261	261	261	261	261	261	1000 kg
Heating (non-business use)	43	43	43	43	43	43	1000 kg
Natural Gas							
Heating (non-business use)	1.66	1.66	1.66	1.66	1.66	1.66	Gigajoule
Coal and Coke							
Heating (non-business use)	1.70	1.70	1.70	1.70	1.70	1.70	Gigajoule
Electricity							
Non-business use	15.0	15.0	15.0	15.0	15.0	15.0	MWh

Source: www.ris.bka.gv.at; Mineralölsteuergesetz § 3; Elektrizitätsabgabegesetz § 4; Erdgasabgabegesetz § 5; Kohleabgabegesetz § 5

## 1.2.2 <u>Alcoholic beverages</u>

Beer containing more over 0.5% alcohol is subject to specific excises, the height of which is subject to the degrees of Plato of the beer. The total excise duty on 1 litre of pilsner beer, with a density of 12.5 Plato degrees amounted in 2016 to:  $12.5 \times 2.0 = 25.0 / 100 = 0.25$  euro. Beer produced by small independent breweries is taxed using a reduced excise (see Table 4 below). Beer excises have nominally remained constant over the period 2011-2016. There are no excises levied on non-sparkling wine, the excises on sparkling wine has been introduced in 2014. Excises also apply to other fermented beverages and alcohol products containing ethyl alcohol.

Table 4: Excises on alcoholic beverages	(euro per unit, 2011-2016)
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	2011	2012	2013	2014	2015	2016	unit
<u>Beer</u>							
Standard rate	2.0	2.0	2.0	2.0	2.0	2.0	hl/°Plato

<= 12500 hl	1.2	1.2	1.2	1.2	1.2	1.2	hl/°Plato
<= 25000 hl	1.4	1.4	1.4	1.4	1.4	1.4	hl/°Plato
<= 37500 hl	1.6	1.6	1.6	1.6	1.6	1.6	hl/°Plato
<= 50000 hl	1.8	1.8	1.8	1.8	1.8	1.8	hl/°Plato
Wine							
Standard rate	0.0	0.0	0.0	0.0	0.0	0.0	hectolitre
Sparkling wine	0.0	0.0	0.0	100.0	100.0	100.0	hectolitre
Other fermented b	everages						
Still	47.1	47.1	52.8	57.0	57.2	74.9	hectolitre
Sparkling	161.1	161.1	180.5	194.9	195.9	256.3	hectolitre
Intermediaries	1000.0	1000.0	1000.0	1200.0	1200.0	1200.0	hl of pure alcohol
Ethyl alcohol	1000.0	1000.0	1000.0	1200.0	1200.0	1200.0	hl of pure alcohol

Source: www.ris.bka.gv.at: Alkoholsteuergesetz § 2; Biersteuergesetz § 3

## 1.2.3 <u>Tobacco products</u>

For manufactured products of tobacco, both specific and ad valorem excise duties apply. The assessment base is the weighted average retail price (Kleinverkaufspreis) of cigarettes. If the tobacco tax burden per 1,000 pieces of cigarettes of a price class is below 98% of the total tobacco tax burden of cigarettes of the weighted retail price or below 123 Euro (before 1.3.2014: 110 Euro) per 1,000 pieces cigarettes, the tobacco tax for this price class amounts to 98% of the total tobacco tax burden of cigarettes of the weighted retail price, however at least 123 Euro (before 1.3.2014: 110 Euro) per 1,000 pieces.

## Table 5: Excises on tobacco products (euro per unit, 2011-2016)

	2011	2012	2013	2014	2015	2016	unit
<u>Cigarettes</u>							
specific excise	34.0	35.0	35.0	40.0	45.0	50.0	1000 units
ad valorem excise (%)	42.0	42.0	42.0	41.0	40.0	39.0	
<u>Cigars</u>							
ad valorem excise (%)	13.0	13.0	13.0	13.0	13.0	13.0	
$\rightarrow$ must be at least:	40.0	40.0	100.0	100.0	100.0	100.0	1000 units
Smoking tobacco							
ad valorem excise (%)	54.0	54.0	54.0	55.0	56.0	56.0	
ightarrow must be at least:	47.5	60.0	60.0	70.0	80.0	90.0	kg

Source: : www.ris.bka.gv.at; Tabaksteuergesetz § 4

# 1.2.4 Tax revenue from excise duties

# Table 6: Proceeds from excise duties (2010 - 2015)

		2010	2011	2012	2013	2014	2015
% of gov. revenue	alcohol	0.09	0.09	0.08	0.08	0.10	0.07
	beer	0.14	0.13	0.12	0.12	0.12	0.11
	sparkling wine	0.00	0.00	0.00	0.00	0.00	0.01
	tobacco	1.06	1.05	1.04	1.04	1.04	1.05
	mineral oils	2.71	2.83	2.69	2.61	2.52	2.47
	energy	0.51	0.53	0.54	0.55	0.52	0.55
	milk quota	0.00	0.02	0.02	0.02	0.02	0.01
	agricultural fund	0.01	0.01	0.01	0.01	0.01	0.01
	sugar	0.00	0.00	0.00	0.00	0.00	0.00
% of GDP	alcohol	0.04	0.04	0.04	0.04	0.05	0.04
	beer	0.07	0.06	0.06	0.06	0.06	0.06
	sparkling wine	0.00	0.00	0.00	0.00	0.00	0.01
	tobacco	0.51	0.51	0.51	0.52	0.52	0.53
	mineral oils	1.31	1.37	1.32	1.29	1.26	1.25
	energy	0.25	0.26	0.26	0.27	0.26	0.28
	milk quota	0.00	0.01	0.01	0.01	0.01	0.00
	agricultural fund	0.01	0.01	0.01	0.01	0.01	0.01
	sugar	0.00	0.00	0.00	0.00	0.00	0.00

Source: Statistics Austria

# 1.2.5 <u>Prices</u>

# Table 7: Average gross consumer prices of items subject to excises (euro, 2010-2016)

	2011	2012	2013	2014	2015	2016	unit
Rum, vodka	12.13	12.50	12.71	13.21	13.61	13.8	litre
White wine	5.80	5.93	6.07	6.23	6.33	6.4	litre
Red wine	6.04	6.25	6.48	6.56	6.59	6.7	litre
Sparkling wine	7.11	7.03	7.11	7.88	8.56	8.7	litre
Beer	1.59	1.63	1.65	1.70	1.75	1.8	litre
Cigarettes	206.5	211.0	219.0	227.5	235.0	238.5	1000 cigarettes
Electricity	0.199	0.198	0.208	0.202	0.201	0.200	kWh
Natural gas/gas	19.29	21.05	21.32	20.78	20.28	20.6	GJ
Diesel	1330	1410	1360	1300	1120	1136.5	1000 l
Petrol	1360	1450	1390	1350	1200	1217.7	1000 l
Heating oil	921.0	998.4	947.5	890.4	711.9	722.4	1000 l

Note: prices for 2016 have been computed applying the 2016 general inflation to 2015 prices.

Source: Statistics Austria

# 1.3 Other indirect taxes

Besides VAT and excises, the Austrian government raises important revenues through different indirect tax instruments:

- Land transfer tax (Grunderwerbsteuer): Legal regulations tax comprised of the purchase of domestic estates;
- Capital transfer tax (Kapitalverkehrsteuer): Currently only the corporation tax is levied. It comprises the transfer of capital to capital company by a partner;
- Duty on vehicles based on fuel consumption (Normverbrauchsabgabe): Due if a vehicle in Austria is delivered to client or is licensed to traffic for the first time in Austria (import, emigration).
- Car registration tax (Kosten bei der Zulassung eines Kraftfahrzeuges): For the registration of a motor vehicle or trailer different fees and cost substitutions are due.

Indirect taxes at the level of the municipalities.

- Entertainment tax (Vergnügungssteuer): The municipalities are authorized to levy a tax on the execution of entertainments in the municipality area.
- Amusement tax (Lustbarkeitsabgabe): Events for the entertainment of spectators, e.g., provision of gambling machines, dance events, cinema shows, erotic events, prater events.

Taxes on lotteries, gambling and betting:

- Tax on gambling stakes 2 (Gewinnsteuer)
- Tax on gambling stakes 1 (Konzessionsabgabe): The concessionaire has for the cession of the right for the operation of gambling games to discharge the tax.
- Duty on casinos (Spielbankenabgabe): Progressive or linear tax rates on incomes from casion games.

Insurance taxes:

- Fire protection tax (Feuerschutzsteuer): Special insurance tax on fire insurance for objects insured in the home country.
- Insurance tax (Versicherungssteuer): The payment of insurance fees for insurances relationships originated by contract or otherwise is taxed.

Other indirect taxes

- Levy on dangerous waste (Altlastenbeitrag): Financing of clearance of waste deposits; levied by the customs offices.
- Tax on tourism (Fremdenverkehrsabgabe): Hirers of private accommodation can be obliged to levy a tax on tourism from the accommodated persons.
- Duty for airway security (Sicherheitsabgabe Zivilluftfahrt; till 2011): The services to be provided by the civil airfield owner were financed by the duty for airway security.
- Flight charge (Flugabgabe; from 2011 on). Each aircraft owner has to discharge the flight charge for passenger departing in Austria provided that there is no exemption from the charge.

- Tax on advertisment (Werbeabgabe): Tax for advertisment services in print media, TV and radio as well as in outdoor advertising. Subject to tax are advertisment services against payment in the home country.
- Certain users fee (Gebrauchsabgabe): For the use of public municipality grounds (or related sites, grass strips, underground or air space).
- Motor vehicles tax (Kraftfahrzeugsteuer): For vehicles with a maximum permissible total weight of more than 3.5 tons.
- Contribution for the promotion of arts (Kunstförderungsbeitrag); tax on radio and TV-licences (Fernseh-, Radio- und Kulturschilling): The tax on radio and TV-licenses (programme fee incl. 10% VAT) benefits the Austrian Broadcasting Institution (ORF). The contribution for the promotion of arts is discharged to the federal level. The tax of the federal state (Landesabgabe) is determined by each federal state.
- Engine specific insurance tax (Motorbezogene Versicherungssteuer): For vehicles with a maximum permissible total weight up to 3.5 tons, in addition to the insurance tax the engine specific insurance tax has to be discharged.
- Stamp fees (in Stempelmarken entrichtete Gebühren): Documents underly a fixed fee, legal transactions underly a fee in percentage of the assessment base.
- Administration duties (Verwaltungsabgaben): Administration duties are levied by federal states or municipalities and comprise matters of fire police, street police, construction police, cinema and events, culture, citizenship, education in ballroom dancing and other matters.
- Estate, inheritance and gift tax (Erbschafts- bzw. Schenkungssteuer): Since 1. August 2008 no inheritance or gift tax is due. In case of inheritances or unpaid transfers (gifts) of estates, the land transfer tax is still due.

Тах	million €	% of gov. revenue
Engine-specific insurance tax, paid by households (other direct taxes; w/o tax paid by enterprises)	1,290	0.91
Insurance tax (tax on products)	1,017	0.71
Land transfer tax (tax on products)	727	0.51
Duty on vehicles based on fuel consumption (tax on products)	453	0.32
Tax on gambling stakes 1 (Konzessionsabgabe; tax on products)	221	0.16
Certain users fee (Gebrauchsabgabe; other taxes on production)	205	0.14
Tax on gambling stakes 2 (Gewinnsteuer; tax on products)	176	0.12
Tax on tourism (tax on products)	171	0.12
Car registration taxes (tax on products)	158	0.11
Contribution for the promotion of arts, tax on radio and TV-licences (other direct taxes)	132	0.09
Taxes on entertainment (tax on products)	116	0.09
Tax on advertisement (tax on products)	110	0.08
Capital transfer tax (tax on products)	102	0.07
Motor vehicles tax (other taxes on production)	70	0.05
Stamp fees (other direct taxes; w/o tax listed under other production taxes)	59	0.04

# Table 8: Revenue from other indirect taxes (2010)

Тах	million €	% of gov. revenue
Fire protection tax (tax on products)	56	0.04
Duty on casinos (tax on products)	55	0.04
Levy on dangerous waste (tax on products)	51	0.04
Estate, inheritance and gift tax (capital taxes)	35	0.02
Duty for airways security (tax on products)	30	0.02
Administration duties (other direct taxes; w/o tax listed under other production taxes)	26	0.02

Source: Statistics Austria

#### 2. DATA

## 2.1 Description of HBS

The Household Budget Survey is conducted every five years by Statistics Austria. The survey sample covers the whole territory of Austria and consists of private households (i.e. collective households such as homes for elderly, hospitals, student hostels, and other types of collective households are not covered by the survey sample). Data on most non-durable expenditures is derived from diaries filled in by respondents over a period of one month. Data on other kinds of spending is collected through face-to-face interviews and cover longer periods. All socio-demographic characteristics of households reflect the situation at the time of the interview. We work with the 2009/2010 data.

# 2.2 Sample descriptives

Table 9 presents the distribution of expenditure in the HBS data across income deciles. We can see from the table that households with lower income spend a bigger share of their income – the bottom two deciles spend on average more than they actually earn. Food and non-alcoholic beverages is the biggest expenditure category for every household. The spending patterns of households are different at higher income levels. Spending on durables, restaurants and hotels, private transport and recreation as well as culture displays a very strong income effect.

	1	2		4		6	7	8	9	10	All
Expenditure category	1	2	3	4	5	6	7	8	9	10	All
Food and non-alcoholic beverages	346	322	350	339	386	339	390	346	347	355	352
Alcoholic beverages	24	23	25	29	33	27	35	36	40	52	32
Tobacco	42	35	42	36	41	40	36	42	34	33	38
Clothing and footwear	119	108	128	137	157	162	184	169	221	282	166
Home fuels, electricity and water	200	208	229	226	244	229	251	239	265	288	238
Housing and rents	157	155	143	168	204	174	194	222	236	301	195
Household goods and services	25	26	29	28	31	30	33	36	34	47	32
Health	62	71	91	94	102	84	116	120	122	153	101
Private transport	168	154	181	187	254	213	280	262	280	315	228
Public transport	20	24	21	21	25	26	23	31	30	38	26
Communication	39	44	46	43	54	48	57	50	48	59	49
Recreation and culture	107	123	141	158	186	189	214	211	240	313	187
Education	24	24	21	23	26	31	25	28	32	46	28
Restaurants and hotels	144	147	190	195	267	277	322	347	429	555	285
Other goods and services	174	176	217	241	268	255	313	311	361	404	271
Durables	240	257	388	369	517	481	593	625	744	863	504
Mean household income	1262	1692	2093	2314	2823	2802	3493	3494	4163	5484	2940
Mean total expenditure	1893	1896	2240	2296	2796	2605	3065	3078	3462	4103	2730

Table 9 Mean (unequivalised) household disposable income and expenditure by income decile and expenditure category, Euro/month

Notes: deciles are constructed on the basis of household disposable income equivalised with the modified OECD scale, allocating the same number of households to each decile. Source: HBS 2010

# 2.3 Comparison of variable distributions in HBS and EUROMOD input data

The following subsection gives an overview of the comparability of HBS and the EUROMOD input data. Table 10 presents the comparison of sample descriptives of the HBS for the year 2010 and for the SILC 2012 datasets that are used in the current project. The household characteristics

match very well, the characteristics of the household heads show some differences between HSB and SILC however.

	HBS	SILC
Household heads		
Mean age	49.8	51.1
Share of men	43.3	61.8
Secondary education	61.4	68.2
Higher education	18.3	31.1
Employed	58.6	60.2
Unemployed	4.2	4.3
Retired	27.2	30.9
Households		
Disposable income	2947.2	3128.7
Household size, mean	2.3	2.3
Number of children, mean	0.4	0.4
Number of employees	1.0	1.0
Share of urban households	39.0	34.0
Region 1: Burgenland, NÖ, Wien	45.0	45.0
Region 2: Kärnten, Steiermark	20.5	20.4
Region 3: OÖ, Salzburg, Tirol, Vorarlberg	34.5	34.6
Car ownership	85.0	77.5
Computer ownership	80.0	74.0
House owner	51.0	49.6
Renter	41.5	42.6

Note: variables presented in the table are self-reported Source: HBS 2010, SILC 2012

Figure 1 provides further details on the distribution of matching values for the age group of household head, and the number of people, children and employed in households. There is no indication that there would be a major inconsistency between HBS and SILC.

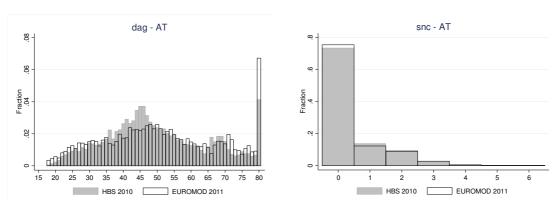
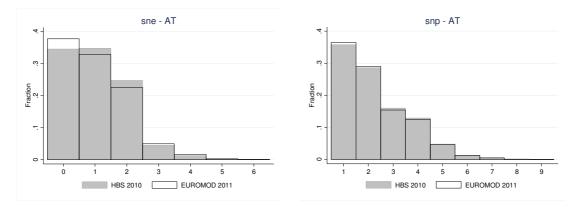
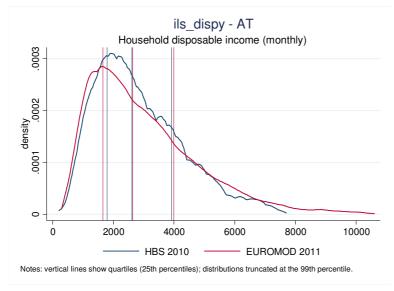


Figure 1: Household head/household characteristics, HBS vs SILC



#### Figure 1: Household head/household characteristics, HBS vs SILC

Figure 2 shows that household disposable income follows a very similar pattern in the two datasets. There are more incomes between 1900 and 4300 euro per month in HBS than in SILC. In general we can conclude that the two income distributions are very similar.



# Figure 2: Household disposable income, HBS vs SILC

# 3. VALIDATION OF ESTIMATED ENGEL CURVES AND EXPENDITURES IMPUTED INTO EUROMOD

Table 14 presents the total expenditure and expenditures by category as observed in HBS, simulated in EUROMOD and observed in national accounts data. EUROMOD simulations are very close to the expenditures observed in HBS, the difference between both is largest for *home fuels, electricity and water*. The three biggest expenditure groups according to both HBS and EUROMOD are *food and non-alcoholic beverages, restaurants and hotels,* and *durable goods*.

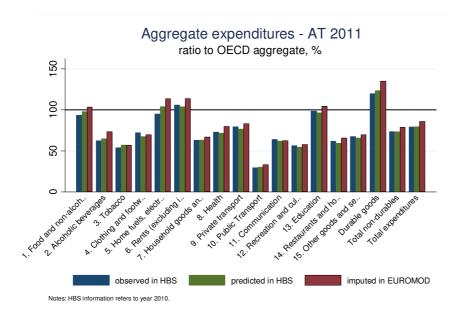
	Annual	expenditure, m	nin EUR		Share, %	
Expenditure category	HBS	EUROMOD	OECD	HBS	EUROMOD	OECD
1. Food & non-alcoholic beverages	15202	15939	16258	12.9	13.5	10.9
2. Alcoholic beverages	1399	1458	2248	1.2	1.2	1.5
3. Tobacco	1653	1750	3065	1.4	1.5	2.1
4. Clothing & footwear	7160	6729	9943	6.1	5.7	6.7
5. Home fuels, electricity & water	10275	11263	10834	8.7	9.5	7.3
6. Housing & rents	8414	8225	7940	7.1	6.9	5.3
7. Household goods & services	1375	1382	2184	1.2	1.2	1.5
8. Health	4369	4274	5984	3.7	3.6	4.0
9. Private transport	9869	9522	12407	8.4	8.0	8.3
10. Public transport	1112	1137	3754	0.9	1.0	2.5
11. Communication	2109	2046	3299	1.8	1.7	2.2
12. Recreation & culture	8092	7848	14383	6.9	6.6	9.7
13. Education	1202	1179	1221	1.0	1.0	0.8
14. Restaurants & hotels	12327	11844	20008	10.4	10.0	13.4
15. Other goods & services	11711	11383	17315	9.9	9.6	11.6
Durable goods	21800	22428	18181	18.5	18.9	12.2
Total non-durables	96270	95979	130843	81.5	81.1	87.8
Total expenditures	118070	118407	149024	100.0	100.0	100.0

Table 14. Total annual expenditure by category: HBS (2010), EUROMOD (2011 simulations) and
National Accounts (2011)

Sources: HBS 2010, SILC 2011, OECD, EUROMOD

There are however important differences between the expenditures in the national accounts (OECD) and the aggregates from our computations. From Figure 3 we can see that figures from the HBS (and imputed in SILC) can deviate quite substantially from the aggregates observed in the national accounts statistics (OECD). Total expenditures in the HBS make up only 79.2% of total expenditures in the national accounts. Lowest coverage is achieved by expenditure on public transport (29.6%), tobacco products (53.9%), and recreation and culture (56.3%). Underreporting of alcohol (62.2%) and tobacco consumption is a well-documented phenomenon, but also differences in definitions may form the basis for lower numbers.

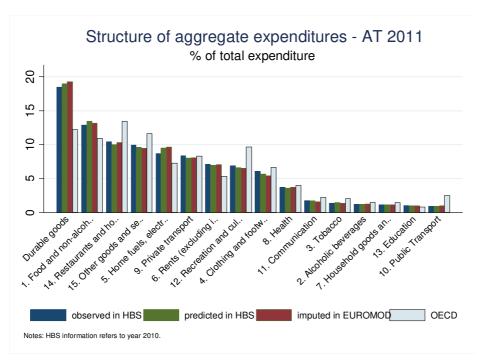
The match between actual HBS data and predictions into HBS is very good with almost no noticeable difference in most cases. Imputation into EUROMOD also matches up well with the actual HBS data. Total imputed expenditure covers around 100.3% of actual expenditure in the HBS. Biggest difference can be seen in education expenditures with the simulated expenditure reaching 109.6% of what is observed in HBS.





The most important expenditure category is durable goods, followed by food, and restaurant and hotel services, food and non-alcoholic beverages that makes up around a quarter of total expenditure according to the different data sources. From figure 4 we can also see that in addition to the previously highlighted differences in expenditure figures there are also noticeable differences in the structure of expenditures when comparing with the OECD data. Although the differences in the structure are not as big as was the case with aggregate expenditure.

Figure 4 Share of expenditures in HBS (2010), EUROMOD (2011 simulations) and OECD (2011) by expenditure category, % of total expenditure



Finally, Figure 5 shows for each non-durable expenditure category its share in total non-durable expenditure and the share of durable expenditure in total expenditure by ventile of household equivalised disposable income, comparing observed and predicted values in HBS 2010 with imputed values in SILC.

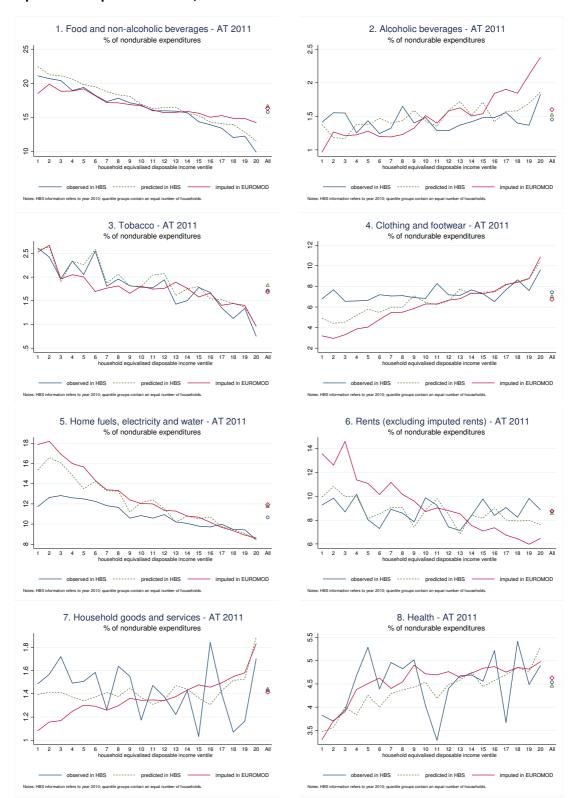
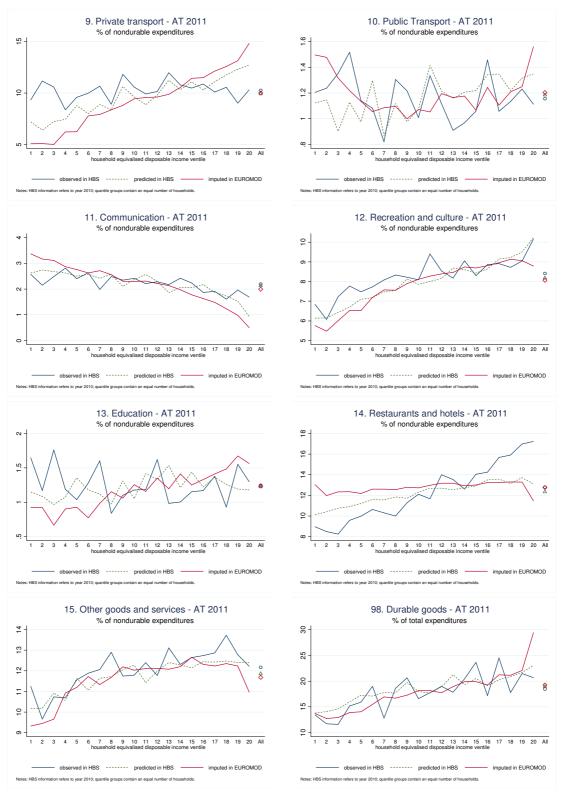


Figure 5: Observed, predicted and imputed expenditure shares by ventiles of household equivalised disposable income, %



# Figure 5: Observed, predicted and imputed expenditure shares by ventiles of household equivalised disposable income, %

Source: authors' calculations

In general the imputed expenditure shares are satisfactory, as for most commodities the levels and shape indeed mimic the ones observed in the HBS. For some commodities there is however some over- or under-prediction for the observed actual budget shares: *home fuels, electricity and water* is over-estimated in the beginning of the distribution, just as is the case for rents. Also for *Private transport* the model doesn't capture well the constant budget share, not does it capture well the increase in the *restaurants and hotels*.

Household expenditures for other years than 2011 are simulated in real terms, i.e. on the basis of 2011-2016 incomes up- or backrated to 2014. To obtain nominal expenditures and calculate indirect taxes for a given year, simulated real expenditures are then uprated with the same index. The index is based on actual year-on-year nominal growth of household consumption in 2012-2015 and forecasted nominal growth of private consumption in 2016.

# 4. VALIDATION OF INDIRECT TAX SIMULATIONS IN EUROMOD

Table 15 presents the implicit tax rate by expenditure category. Because VAT rates have remained unchanged during the observed period we only see changes in the implicit tax rates in categories that are subject to some type of excises. The highest taxed items are tobacco products, the second highest category is alcoholic beverages followed by private transport. In all these categories the relevant excises have been increased over the years and therefore we can see a rise in the implicit tax rate.

Expenditure category	2011	2012	2013	2014	2015	2016
1. Food & non-alcoholic beverages	11.0	11.0	11.0	11.0	11.0	11.0
2. Alcoholic beverages	40.3	39.7	39.3	40.5	39.8	39.3
3. Tobacco	287.0	304.1	294.5	304.0	313.5	308.7
4. Clothing & footwear	20.0	20.0	20.0	20.0	20.0	20.0
5. Home fuels, electricity & water	17.0	17.0	16.9	17.0	17.1	17.3
6. Housing & rents	10.9	10.9	10.9	10.9	10.9	10.9
7. Household goods & services	20.0	20.0	20.0	20.0	20.0	20.0
8. Health	12.7	12.7	12.7	12.7	12.7	12.7
9. Private transport	45.6	43.7	44.9	46.1	50.9	50.3
10. Public transport	10.4	10.4	10.4	10.4	10.4	10.4
11. Communication	10.2	19.2	19.2	19.2	19.2	19.2
12. Recreation & culture	13.9	13.9	13.9	13.9	13.9	13.9
13. Education	0.0	0.0	0.0	0.0	0.0	0.0
14. Restaurants & hotels	8.3	8.3	8.3	8.3	8.3	8.3
15. Other goods & services	9.2	9.2	9.2	9.2	9.2	9.2
Durable goods	20.0	20.0	20.0	20.0	20.0	20.0

### Table 15. Implicit indirect tax rate by expenditure category, %, 2011-2016

Source: EUROMOD

For 2011 the total indirect tax amount estimated by EUROMOD made up 41.4% of the total relevant indirect taxes collected in Estonia. For excises the ratio remained between 15% to 26% and for VAT it was 51%. The issue about actual tax amounts is that they represent tax revenues from all sources. It is not possible to break the tax revenue down by taxes paid by the households and businesses. Low coverage of alcohol and tobacco excises can be explained by the underreporting of alcohol and tobacco expenditure. Low coverage of energy excise can be the result of a larger share paid by businesses. In the case of VAT it would make sense to assume that households would be responsible for the majority of collected VAT. The relatively low coverage can be partly explained by the HBS not capturing all the expenditure of the households.

If we took all the expenses captured in HBS and allocated it as VAT taxable expenses then we would get coverage of still only 71%.

The coverage of total indirect taxes, especially that of VAT, drops slightly across the years. This can be explained by the expenditure data originating from the period of economic uncertainty. Data collected while households were still recovering from the effects of the crisis does not accurately represent the level of expenditure one might expect now.

		2011	2012	2013	2014	2015	2016
VAT	EUROMOD	15902.6	16341.9	16531.7	16566.3	16676.8	17189.3
	Actual	23497.7	24600.8	24978.2	25467.1	26325.5	
	Coverage	0.68	0.66	0.66	0.65	0.63	
Excises	EUROMOD	3085.9	2923.8	2998.8	3091.7	3358.5	3393.09
	Actual	7472.3	7562.5	7598.0	7539.4	7742.4	
	Coverage	0.41	0.39	0.39	0.41	0.43	
Total indirect	EUROMOD	18988.5	19265.7	19530.5	19658.0	20035.3	20582.4
taxes	Actual	30970.1	32163.3	32576.1	33006.4	34067.9	
	Coverage	0.61	0.60	0.60	0.60	0.59	

### Table 11: Indirect tax amounts 2011-2016

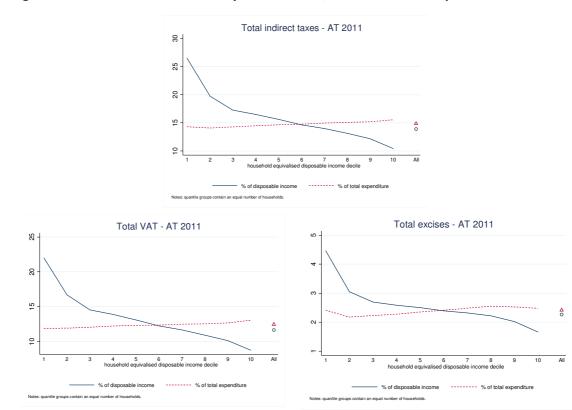
Sources: EUROMOD, OECD

Table 12 presents the distribution of expenditure and indirect taxes across income deciles. It is expected that households with lower income spend a larger share of their income and also pay a bigger share of their income as indirect taxes. Indirect taxes are strongly regressive – the households in the bottom decile pay over two times larger share of their income as indirect tax than households in the top decile. The regressivity originates both from the excises as from the VAT.

Table 12: Mean household income,	, expenditure and indirect	t taxes by income decile,	, in 2011
Euro/month			

Income decile	Disposable income	Expenditure	VAT	Excises	Share of exp. in income (%)	Share of VAT in income (%)	Share of excises in income (%)
1	945.0	1748.8	208.0	42.2	185.1	22.0	4.5
2	1345.8	1886.6	224.7	41.1	140.2	16.7	3.1
3	1771.9	2139.3	257.8	47.8	120.7	14.5	2.7
4	2113.9	2403.0	293.6	54.7	113.7	13.9	2.6
5	2532.6	2693.4	331.6	63.4	106.3	13.1	2.5
6	2821.9	2796.6	345.3	67.6	99.1	12.2	2.4
7	3270.2	3057.6	381.6	75.9	93.5	11.7	2.3
8	3813.2	3319.6	416.1	84.7	87.1	10.9	2.2
9	4812.4	3853.6	488.1	97.4	80.1	10.1	2.0
10	7528.4	5054.2	660.3	125.3	67.1	8.8	1.7
All	3095.1	2895.0	360.7	70.0	93.5	11.7	2.3

Notes: deciles are constructed on the basis of household disposable income equivalised with the modified OECD scale, allocating the same number of households to each decile. Source: EUROMOD



## Figure 6: Incidence of indirect taxes by income decile, % of income and expenditure

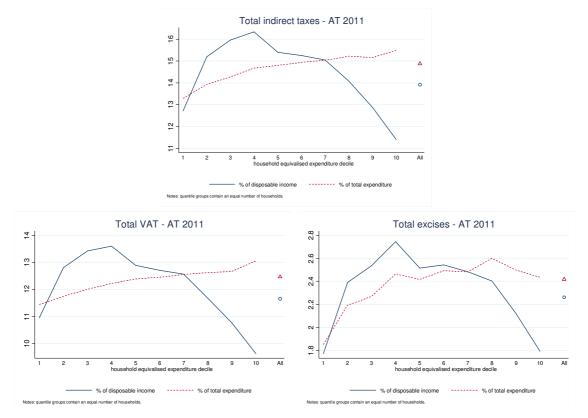
Notes: deciles are constructed on the basis of household disposable income equivalised with the modified OECD scale, allocating the same number of households to each decile. Source: EUROMOD

Table 13 presents the distribution of expenditures and indirect taxes by expenditure deciles and relative to total expenditure. We can see from the table that the share of VAT in expenditure is slightly progressive, ranging from 11.4% of expenditures for the lowest expenditure decile, to 13.1% for the top decile. The share of excises in total expenditures rises from 1.9% for the lowest decile to 2.6% for decile 8, and decreases slightly again for the top two deciles.

Expenditure decile	Disposable income	Expenditure	VAT	Excises	Share of VAT in expenditure (%)	Share of excises in expenditure (%)
1	1473.4	1409.6	161.2	26.1	11.4	1.9
2	1666.1	1816.2	213.2	39.8	11.7	2.2
3	1980.9	2215.3	265.9	50.3	12.0	2.3
4	2258.0	2513.3	306.9	62.0	12.2	2.5
5	2666.5	2775.2	343.7	67.1	12.4	2.4
6	2907.8	2967.3	369.4	73.9	12.4	2.5
7	3114.0	3116.4	391.2	77.4	12.6	2.5
8	3585.6	3314.1	418.2	86.2	12.6	2.6
9	4457.0	3783.8	479.1	94.5	12.7	2.5
10	6846.6	5042.2	658.3	122.8	13.1	2.4
All	3095.1	2895.0	360.7	70.0	12.5	2.4

Table 13: Mean household income, expenditure and indirect taxes by expenditure decile, in 2011	
Euro/month	

Notes: deciles are constructed on the basis of household total expenditure equivalised with the modified OECD scale, allocating the same number of households to each decile. Source: EUROMOD



# Figure 7: Incidence of indirect taxes by expenditure decile, % of income and expenditure

Notes: deciles are constructed on the basis of household total expenditure equivalised with the modified OECD scale, allocating the same number of households to each decile. Source: EUROMOD

## 5. **REFERENCES**

Statistics Austria

OECD.Stat: https://stats.oecd.org/

http://www.ris.bka.gv.at/

# 6. ANNEX

# Table 14: Overview of reduced VAT product categories (2010)

Standard rate	All goods not listed under reduced				
Reduced 1	Delivery and importing of living animals; bees and trained guide dogs; meat and eatable slaughterby-products; fish (except ornamental fish), shellfish, mollusks and invertebrate water animals; milk and milk products, bird eggs, natural honey, other eatable goods of animal origin;				
	raw feather for filling, raw downs; bulbs, lumps, root lumps and root sticks, chicory plants and roots; other living plants (incl. roots), cutting and Pfropfreiser, funguns mycelim; flowers and blossoms incl. buds, cutted, fresh; foliage, leaves, branches and other parts of plants as well as grass, moss and plats, fresh				
	vegetables and dry triggered pulse; topinambur; eatable fruits and nuts; spicery; corn; mill products; flour, semolina, flakes, granulat and pellets of potatoes; flour and semolina of dry pulse; starch of wheat, maize and potatoes; oil seed and fruits; seed, fruits and spore for sowin				
	hop, lupulin; mint, lime blossom, salvia, chamomile blossoms, elder blossoms and other house tea; carob, sugar beet, stones and pits of fruits as well as other plant goods for human nutrition food for animals; pectin, pectinates and pectates; pig lard and poultry fat;				
	premierjus and food suet				
Reduced 1 (continued)	oleomargarin; eatable plant oils; eatable animal or plant fats and oils; margarine; bees wax, ra preparations of meat, fish or shellfish, mollusks and invertebrate water animals				
	sugar and sugar products, except chemical clean fructose and maltose; cacao powder, chocolat preparations from grain, flour, starch or milk, pastries;				
	preparations from vegetables, fruits, nuts or other parts of plants, except fruit and vegetable juice; water; milk and milk products, except addition of coffee, tea or mate; food vinegar; tailini and waste of food industry, prepared food for animals				
	tobacco, crude cooking salt; ammoniumcarbonate and dinatriumcarbonate; acetic acid; saccharin and its salts; animal and plant fertiliser except guano, not chemically treated; mixture of smelling substances in food industry; gelatine; prepared encyms which include nutrients; sweetener				
	raw and entire skin and coats;				
	wood; books, brochures and similar prints				
	Delivery and import of coins and medals				
	Import works of art; stamps, revenue stemps, which are not valid in the destination country; zoologic, botanic, mineralogic or anatomic collections; collections of historic, archeologic, palaontologic value; antiques, more than 100 years old				
	Delivery of works of art				
	Delivery of food and drinks (restaurant turnover)				
	Renting of books, brochures and similar prints; newspapers and other periodic prints; picture albums, picture books and painting books, for children; sheet music; cartographic products				

	Upbringing, fatten and maintaining of living animals; upbringing of plants
	Renting of estates for residential purposes, except delivery of heat as by-product; accommodation in living and sleeping rooms incl. by-products, heating, breakfast; renting of estates for camping incl. by-products; services of associations of individuals for maintenance, administration or operation of parts and facilities for residential purposes in their common property except delivery of heat as by-product
	Turnover from activities as artist
	Turnover related to operation of swimming baths and thermal treatment
	Services of corporations, associations of individuals and legal estates for non-profit, charitable churchy purposes as well as services deliverd by non-profit construction associations (except delivery of buildings or part of buildings, renting of premises or space for vehicles, delivery of heat as by-product, delivery heating material, heating oils, gas and electricity)
	Services connected with the operation of a theatre; music performances by orchestra, ensembles and choirs; services related to the operation of museums, botanic or zoologic gardens and natural parks
	Services of broadcasting enterprises
	Film demonstrations, circus demonstations and services from activities as showman
	Transport of persons with means of transport of any kind
	other services connected with the operation of enterprises for waste disposal and waste water
	Services of youth, education, training and recovering homes for persons <27, as long as these relate to care, accommodation, catering and usual by-services
	Turnover of health and care institutions, old-age-, blind- and ailing-homes, convalescent homes as long as these relate to services connected with the health or convalescent treatment or care for nurslings
Reduced 2	Delivery of wine and other brewed drinks, as long as the producers delivers the drinks within his/her agricultural enterprise. Excepted are drinks which are based on bought materials (e.g., grapes) or are provided within the entersprises' premises incl. gardens ("Buschenschank").
Redueced (exclaves)	The tax is reduced to 19% related to turnover based on deliveries and other services in the area of Jungholz und Mittelberg by entrepreneurs who have their residence or a commercial unit in these areas.
Exempted	There is no value added tax on the purchase of estates which underly the land transfer tax.
	Real tax relief: the entrepreneur renders a net account. However, value added tax charged on him/her he/she can claim as input VAT. Real tax exempted are e.g., export deliveries, admissio temporaire for foreign contractors and cross-border transport in third countries, turnover of maritime navigation and aviation as well as gold delivery to national banks and its procurance.
	Pseudo tax relief: the entrepreneur must not charge VAT and must not claim input VAT: Concerned are e.g., granting and procurance of credits, turnover by buidling society and insurance agents as well as turnover by physiciains, dentists, psychotherapeut, etc.; turnover o small-scale entrepreneurs (<30.000 EUR yearly turnover)

Services deliverd by non-profit construction associations related to car parks is equated to the renting of these premises or space. From 1.1.2016, this turnover underlies the regular tax rate.

Since 1.1.2016 the tax amounts to 13 % for the delivery and importing of

Living animals, bulbs, lumps, root lumps and root sticks, chicory plants and roots, other living plants (incl. roots), flowers and blossoms incl. buds, cut, fresh, foliage, leaves, branches and other parts of plants as well as grass, moss and plats, fresh seed, fruits and spore for sowing; food for animals;

tailings and waste of food industry, prepared food for animals, animal and plant fertiliser except guano, not chemically treated, fire wood; wood in form of pads or chips; sawdust, wooden waste

Importing of works of art; stamps, zoological, botanic, mineral or anatomic collections; collections of historic, archeologic, palaeontological value; antiques of more than 100 years old

Delivery of works of art, Upbringing, fatten and maintaining of living animals; upbringing of plants,

Turnover from activities as artist; Turnover related to operation of swimming baths and thermal treatment; Film demonstrations, circus demonstrations and services from activities as showman; transport of persons in air traffic as long as not cross-bordering (tax-exempted).

Services of youth, education, training and recovering homes for persons <27, as long as these relate to care, accommodation, catering and usual by-services; Delivery of wine and other brewed drinks, as long as the producers delivers the drinks within his/her agricultural enterprise. Excepted are drinks which are based on bought materials (e.g., grapes) or are provided within the enterprises' premises incl. gardens ("Buschenschank"); Entry authorisation for sporting events

In addition, as of May 2016, a 13% VAT-rate applies on accommodation in living and sleeping roomsincluding by-products (heating); renting of estates for camping incl. by-products, as long as a uniform use fee is paid; Services connected with the operation of a theatre. Also valid for events of theatre performance by other entrepreneurs; music performances by orchestra, ensembles and choir. The same is valid for events services related to the operation of museums, botanic or zoological gardens and natural park.

	Index factor
Year	(2011=100)
2011	100.0
2012	102.9
2013	104.1
2014	104.4
2015	105.1
2016	107.3

# Table 15: Index factor used for imputing expenditures