

## COUNTRY REPORT: EE

### 1. DESCRIPTION OF THE INDIRECT TAX SYSTEM

This section describes the indirect tax system for Estonia. 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. Information is presented up to the latest available year.

#### 1.1 Value Added Tax

VAT is charged on supply of goods and services in the course of business activities and self-supply of goods and services. Taxable person is a person engaged in business who is registered as taxable person. The threshold for obligatory registration as a taxable person is 16,000 EUR. Apart from a minor rounding from EEK to EUR the threshold has remained unchanged since 2005.

The taxable period is one calendar month. The standard rate of VAT is 20%; the reduced rate is 9% and also 0% in some cases. VAT rates have remained unchanged since 2009 and were only changed once in the last 16 years.

**Table 1: Overview of changes in VAT rates (2000-2016)**

	2000	2009	2009
		Jan	July
Standard	18%		20%
Reduced	5%	9%	

Source: Riigi Teataja

Table 2 presents the overview of product categories that are taxed with the reduced rate or are altogether exempted from VAT. A more detailed list can be found in Annex. As with the VAT rates the list of reduced VAT product categories has seen very little changes over time.

**Table 2: Overview of reduced VAT product categories (2011)**

Reduced	Books and workbooks used as learning materials, medicinal products, periodic publications, accommodation services
0% rate	Exported goods
Exempted	Universal postal service, health services, social services, insurance services, renting and buying of immovable, certain financial services

Source: Riigi Teataja

As can be seen from table 3 VAT is a relatively important source of government revenue constituting little over quarter of total government revenue in 2015. Share of VAT decreased slightly during the crisis years but has now reached the pre-crisis levels.

**Table 3: VAT revenue 2007-2015**

	2007	2008	2009	2010	2011	2012	2013	2014	2015
% of gov revenues	27.2%	24.2%	22.0%	22.2%	22.8%	23.2%	23.7%	25.4%	27.4%
% of GDP	8.8%	8.0%	8.5%	8.5%	8.1%	8.3%	8.2%	8.5%	9.1%

Source: Statistics Estonia

## 1.2 Excise duties and prices

Excise duties are levied upon alcoholic beverages, tobacco products, different energy products and packaging. All the duties are specific, except for tax on cigarettes which are taxed both on specific and ad valorem basis.

### 1.2.1 Alcoholic beverages

Alcohol excise duty is imposed on wine, beer, fermented beverages, intermediate products and other alcohol produced in Estonia or brought into Estonia. Excise duty is not charged on denatured alcohol, pure alcohol used in medicine, pharmacy, veterinary, medicine, scientific research and training and for the manufacture of cosmetic products, neither on alcohol, which is consumed on board of vessels or aircrafts moving between the EU member states. However, the take-away goods sold on board are subject to excise duty. Also alcohol products which a traveller brings into the customs territory inside the baggage with which he or she is travelling and that is meant for personal use is exempt from excise duty. The duty rates are presented in Table 4.

**Table 4: Excises on alcoholic beverages (euro per unit, 2011-2016)**

	2011	2012	2013	2014	2015	2016	unit
		Feb	Jan	Jan	Jan	Feb	
<i>Beer</i>	5.43*	5.7*	6*	6.28*	7.22*	8.3*	1 % of ethanol by volume per hl
<i>Wine and fermented beverage (≤ 6 %)</i>	31.7	33.3	34.97	36.71	42.22	48.55	hl
<i>Wine and fermented beverage (&gt; 6 %)</i>	73.11	76.8	80.64	84.67	97.37	111.98	hl
<i>Intermediate product</i>	156.2	164	172.2	180.81	207.93	239.12	hl
<i>Other alcohol</i>	14.18	14.9	15.65	16.43	18.89	21.72	1 % of ethanol by volume per hl

Notes: \* the rate of excise duty on beer produced by a small producer who produces beer up to 3000 hectolitres per calendar year is 50 per cent of the normal rate.

Source: Riigi Teataja

### 1.2.2 Tobacco

Tobacco excise duty is imposed on tobacco products (smoking tobacco, cigarettes, cigars, cigarillos) produced in Estonia or brought into Estonia.

Excise for cigarettes consists of fixed rate per 1,000 cigarettes and a proportional tax rate calculated on the maximum retail selling price of cigarettes but not less than the indicated minimum amount per 1,000 cigarettes. The tax rates are presented in Table 5.

**Table 5: Excises on tobacco products (2011-2016)**

	2011	2012	2013	2014	2015	2016	unit
	Jan	Jan	Jan	Jan	May	June	
	33%	33%	33%	34%		30%	% of maximum retail price
Cigarettes	38.35	42.18	45	46.5		58	fixed rate per 1000 cigarettes
	73	80	84.8	90		97.2	min excise duty per 1000 cigarettes
Cigars and cigarillos	191.73		211				1000 cigars or cigarillos
Smoking tobacco	55.79		61			55.88	kg
Chewing tobacco	55.79		61		n/a		kg

Source: Riigi Teataja

### 1.2.3 Energy products

Fuel and electricity excise duty is applied on a wide variety of energy products. The duty rates for energy products are presented in Table 6. There are also a number of exemptions, most notably for solid fuels used in households as heating fuel. Other exemptions are presented in Annex.

As can be seen from table 6 the energy excise duties have remained relatively unchanged during the observational period with the most important changes taking place in 2016.

**Table 6: Excises on energy products (euro per unit, 2011-2016)**

	2011	2012	2013	2015	2016	Unit
	Jan	July	Jan	Jan	Feb	
Unleaded petrol	422.77				465	1000 l
Leaded petrol	422.77				465	1000 l
Aviation spirit	71.58	422.77			465	1000 l
Kerosene	330.1					1000 l
Liquid petroleum	125.26					1000 kg
Diesel fuel	392.92				448	1000 l
Diesel fuel for specific purposes	110.95				121	1000 l
Light heating oil	110.95			392.91	448	1000 l
Heavy fuel oil	15.01				58	1000 kg
Shale-derived fuel oil	15.01				57	1000 kg
Natural gas	23.45			28.14	33.77	1000 m <sup>3</sup>
Coal, lignite and coke	0.3				0.93	gigajoule
Oil shale	0.15		0.3		0.93	gigajoule
Electricity	4.47					MWh

Source: Riigi Teataja

#### 1.2.4 Product and sector specific charges

Only other previously not mentioned excise duty in Estonia is excise duty on packaging. Duty rates have been presented in table 7. Packaging excise duty rates have remained unchanged since 2011. Excise duty (deposit) of returnable bottles does not constitute a monetary burden for the consumer as long as it is recycled. Furthermore, HBS lacks the information on packaging and therefore it is not possible to model.

**Table 7: Excise duty on packaging (2011-2016)**

	euro per unit	unit
Glass	0.64	1 kg
Plastic	2.56	1 kg
Metal	2.56	1 kg
Paper and cardboard, including composite		1 kg
Cardboard	1.28	
Wood	1.28	1 kg

Source: Riigi Teataja

### 1.2.5 Tax revenue from excise duties

Table 8 presents the share of excise duty by source as % of government revenue and GDP. Motor fuel is the most important source of excise duty making up to 6.36% of total government revenue in 2015, followed by alcohol and tobacco. The relative importance of different excise duties in government revenue has slightly increased over the years. Meanwhile the share of excise duty in GDP by all sources has seen a very slight decrease over the years.

**Table 8: Proceeds from excise duties (2009-2015)**

		2009	2010	2011	2012	2013	2014	2015
% of gov. revenue	Alcohol	2.93%	2.94%	3.03%	3.04%	3.19%	3.30%	3.27%
	Tobacco	2.44%	2.04%	2.45%	2.46%	2.54%	2.67%	2.70%
	Motor fuel	5.69%	6.36%	6.14%	6.06%	5.85%	6.06%	6.36%
	Electricity	0.40%	0.52%	0.55%	0.51%	0.50%	0.50%	0.50%
	Other	0.00%	0.00%	0.00%	0.00%	0.01%	0.00%	0.02%
% of GDP	Alcohol	1.13%	1.12%	1.07%	1.08%	1.10%	1.10%	1.09%
	Tobacco	0.94%	0.78%	0.87%	0.88%	0.88%	0.89%	0.90%
	Motor fuel	2.20%	2.43%	2.17%	2.16%	2.02%	2.03%	2.11%
	Electricity	0.16%	0.20%	0.19%	0.18%	0.17%	0.17%	0.17%
	Other	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%

Source: Statistics Estonia

### 1.2.6 Prices

Table 9 lists consumer prices at the most detailed level of commodity groups available in HBS. First column details the price information that is available from HBS. Where available the actual time series of prices were used. In the case of wine, cigarettes and tobacco the price information present in HBS was taken and adjusted with CPI for the following years.

**Table 9: Average consumer prices of items subject to excises (euro per unit, 2011-2016)**

	2011 HBS	2011	2012	2013	2014	2015	2016	unit
Spirits	11.45	10.9	11.92	12.7	12.9	13.6	14.4	litre
Beer	2.04	1.82	1.94	1.94	1.98	2.08	2.21	litre
Wine	5.34	5.34	5.63	5.92	6.16	6.47	6.88	litre
Cigarettes	2.28	2.28	2.40	2.53	2.63	2.76	2.94	Pack (20 cigarettes)
Tobacco	103.3	103.3	108.9	114.5	119.1	125.2	133.1	kg
Electricity		89.1	96.3	115.2	104.1	97.8	90.7	mWh
Natural gas		0.41	0.51	0.51	0.51	0.39	0.37	m <sup>3</sup>
Liquid petroleum gas		0.77	0.79	0.75	0.68	0.55	0.52	litre
Diesel		1.21	1.26	1.22	1.26	1.10	1.06	litre
Petrol		1.25	1.28	1.23	1.30	1.14	1.11	litre
Kerosene and heavy fuel oil		1.74	1.78	1.75	1.73	1.72	1.71	kg

Source: list of sources and notes in Table 18 in Annex

### 1.3 Other indirect taxes

Other indirect taxes besides VAT and excises are presented in table 10. One can see from the table that the other indirect taxes are of a relatively low importance regarding total government revenue. In order of importance customs duty, gambling tax and heavy vehicle tax made up less than 1% of total government revenue in 2011.

**Table 10: Revenue from other indirect taxes (2011)**

Tax	mIn €	% of gov. revenue
Heavy vehicle tax	3.68	0.06%
Gambling tax	19.32	0.33%
Customs duty	29.08	0.49%

Source: Statistics Estonia

Table 11 summarises the scope of simulations in EUROMOD. Only excise duty on packaging is not being simulated due to lack of data on packaging information. However, excise from packaging makes up only a very minor amount of the total excises. Coded tax policy parameters in EUROMOD (with main assumptions) are presented in Table 20 in Appendix.

**Table 11. Indirect taxes simulated in EUROMOD**

Indirect tax	Simulated
VAT	Yes
Alcohol excise	Yes
Tobacco excise	Yes
Energy excise	Yes
Packaging excise	No

## **2. DATA**

### **2.1 *Description of HBS***

The Estonian Household Budget Survey (HBS – Leibkonna Eelarve Uuring, LEU) is conducted irregularly by Statistics Estonia and has been carried out annually in 1997-2007, 2010-2012 and 2015. The survey covers information on consumption, household expenditures, household resources (individual wages, independent earned income, welfare benefits, transfers between households etc.), socio-demographic characteristics, living conditions and the possession of consumer durables. The study of household expenditures is the main purpose of the survey: all household expenditures are recorded, the amount and nature of these expenses, broken down using the COICOP classification. All expenses are covered, including taxes and contributions and major home renovation expenditures. Survey takes place during a whole year during which different households are interviewed at different times. Households are asked to fill a questionnaire and write down all their expenses during a 2-week period. Information about some over 100 euro expenses is also asked retrospectively for last 12 months. Statistics Estonia highlights as a biggest weakness the underestimation of expenses related to alcohol and tobacco.

### **2.2 *Sample descriptives***

Table 12 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.

**Table 12. Mean (unequalised) household disposable income and expenditure by income decile and expenditure category, Euro/month**

Expenditure category	1	2	3	4	5	6	7	8	9	10	All
Food and non-alcoholic beverages	132	144	133	145	166	185	190	190	206	222	171
Alcoholic beverages	7	8	8	10	10	12	13	20	21	24	13
Tobacco	8	9	5	8	10	7	7	9	9	6	8
Clothing and footwear	16	13	12	11	19	31	43	38	49	69	30
Home fuels, electricity and water	55	66	56	61	75	80	79	83	92	103	75
Housing and rents	24	27	22	26	28	31	38	38	43	52	33
Household goods and services	4	5	4	6	7	8	7	7	9	14	7
Health	9	16	16	19	21	25	23	25	26	36	22
Private transport	15	19	19	22	40	44	42	58	77	110	44
Public transport	5	6	5	4	6	9	8	11	8	12	7
Communication	23	26	22	25	35	35	41	50	50	63	37
Recreation and culture	13	24	25	23	30	44	45	55	59	93	41
Education	2	4	3	4	4	5	6	7	7	14	5
Restaurants and hotels	5	6	5	10	13	21	21	41	44	90	25
Other goods and services	15	16	12	17	29	30	31	47	58	76	33
Durables	18	34	32	27	37	51	67	79	107	195	64
Mean household income	232	390	389	464	627	718	870	1017	1338	2074	807
Mean total expenditure	350	423	379	421	531	617	662	758	866	1179	616

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

Source: HBS 2011

### 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 13 presents the comparison of sample descriptives of the HBS for the year 2011 and for the SILC 2012 datasets that are used in the current project. In total HBS contains information from 3,590 households consisting of 9,314 individuals. The household size and number of children are very similar. In HBS a slightly greater share of households are situated in the urban region. The difference most likely comes from the different definitions used to construct this variable. In HBS a household is considered to be in an urban region if it is situated in a city or a large borough. In SILC the variable is based on the level of urbanisation of the area the household is located in. However, there are no alternative ways to construct this variable and therefore it is the closest possible match. The differences are also not substantial enough to warrant disregarding the variable from the model. In other variables there are only some minor differences.

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.



**Table 13. Sample descriptives**

	HBS	SILC
<b>Individuals</b>		
Mean age	39.9	40.1
Share of men	46.0%	46.0%
Primary education or less	34.0%	33.7%
Secondary education	41.6%	38.2%
Higher education	24.4%	28.1%
Employed	43.6%	45.2%
Unemployed	7.0%	5.1%
Retired	21.1%	19.0%
<b>Household heads</b>		
Mean age	50.2	51.4
Share of men	40.2%	45.4%
Primary education or less	17.5%	15.0%
Secondary education	48.6%	46.7%
Higher education	33.9%	37.3%
Employed	55.9%	60.0%
Unemployed	7.6%	4.5%
Retired	29.8%	27.6%
<b>Households</b>		
Household size, mean	2.3	2.2
Number of children, mean	0.4	0.4
Share of urban households	71.4%	60.7%

Note: variables presented in the table are self-reported

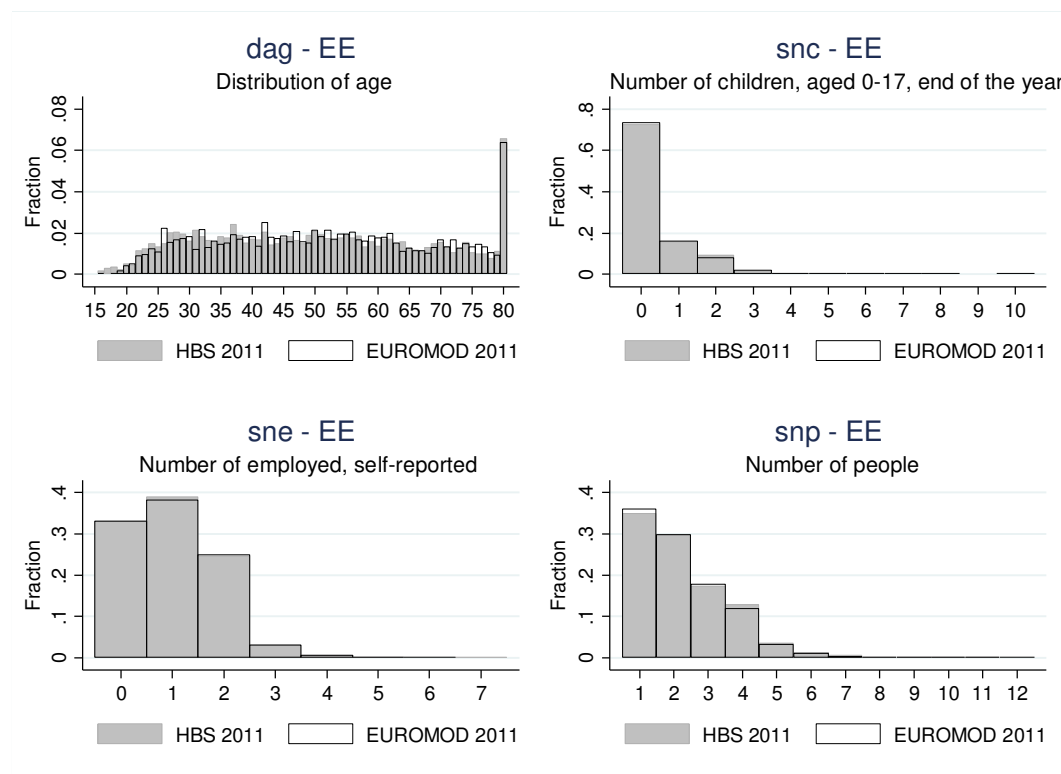
Source: HBS 2011, SILC 2012

From Figure 2 it can be seen that household disposable income follows a very similar pattern in the two datasets. While SILC data<sup>1</sup> has slightly higher density of incomes in the 1000 to 2000 euro range, the overall differences are quite small and the match between the two datasets can be considered to be good.

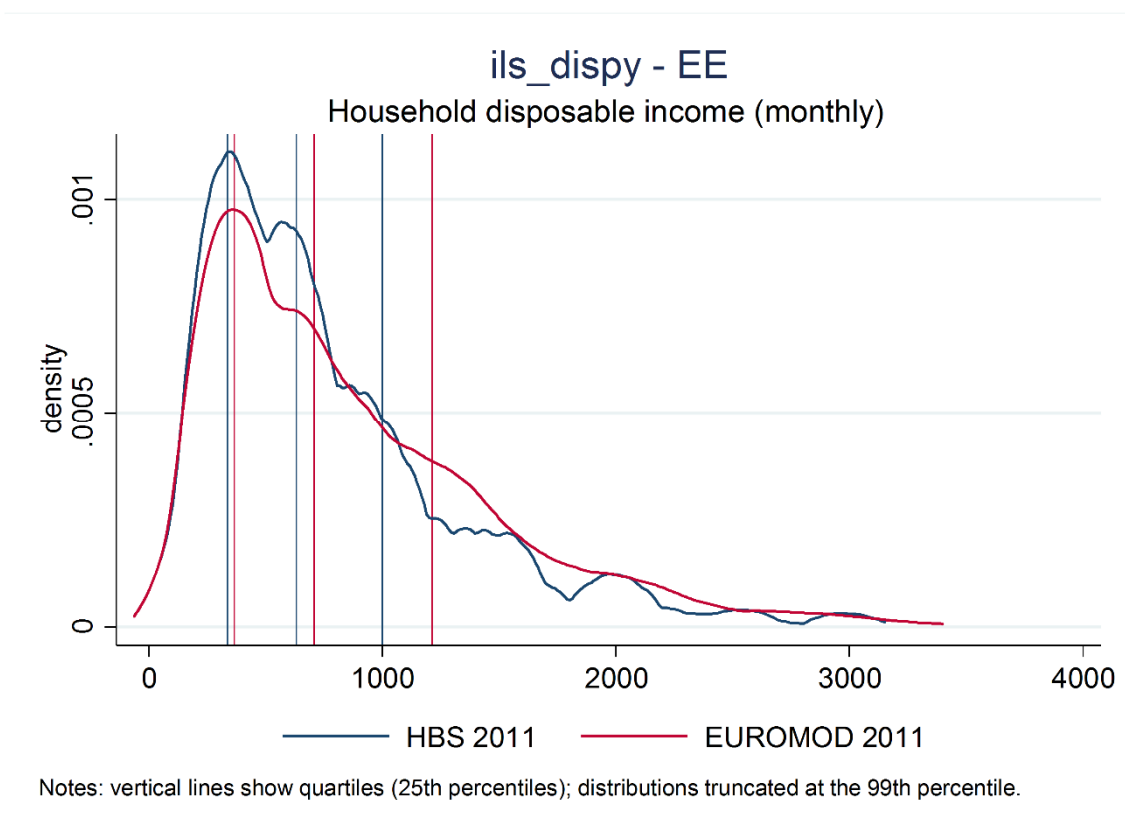
In other cases there are almost no differences between datasets and overall one can conclude that there is a very good match between HBS and SILC data.

<sup>1</sup> From hereafter the term SILC data is used to indicate the EUROMOD input data that is based on the SILC data.

**Figure 1. Household head/household characteristics, HBS vs SILC**



**Figure 2. Household disposable income, HBS vs SILC**



### 3. VALIDATION OF ESTIMATED DEMAND SYSTEM 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 OECD data. EUROMOD simulations are very close to the expenditures observed in HBS. The three biggest expenditure groups according to HBS and EUROMOD are food and non-alcoholic beverages, home fuels and durable goods. However according to the OECD statistics the two largest expenditure groups after food are other goods and services and private transport. In OECD data the differences between different expenditure groups are somewhat smaller than what we see in the HBS.

**Table 14. Total annual expenditure by category: HBS (2011), EUROMOD (2011 simulations) and OECD (2011)**

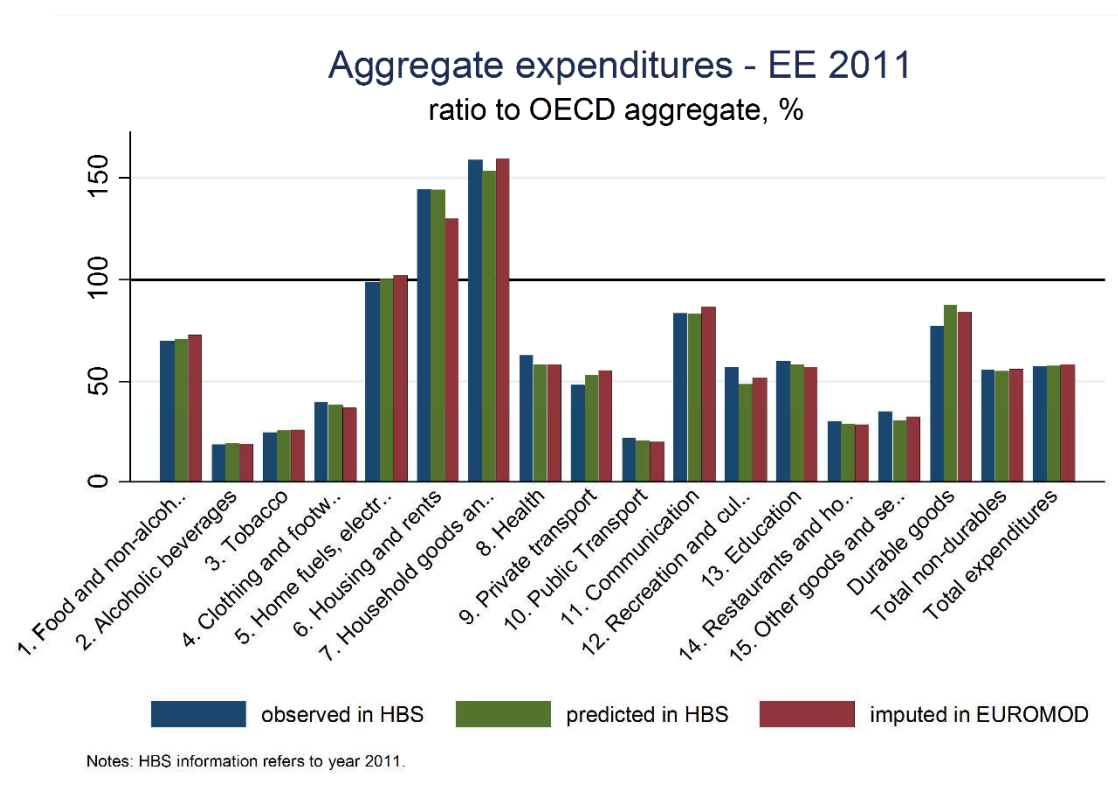
Expenditure category	Annual expenditure, mln EUR			Share, %		
	HBS	EUROMOD	OECD	HBS	EUROMOD	OECD
Food and non-alcoholic beverages	1,200	1,256	1,721	27.7	28.6	22.8
Alcoholic beverages	93	95	500	2.1	2.2	6.6
Tobacco	56	59	229	1.3	1.3	3
Clothing and footwear	210	194	527	4.8	4.4	7
Home fuels, electricity and water	526	544	532	12.2	12.4	7
Housing and rents	231	208	160	5.3	4.7	2.1
Household goods and services	51	51	32	1.2	1.2	0.4
Health	151	140	241	3.5	3.2	3.2
Private transport	312	360	648	7.2	8.2	8.6
Public Transport	53	48	243	1.2	1.1	3.2
Communication	259	270	311	6	6.1	4.1
Recreation and culture	286	261	503	6.6	5.9	6.6
Education	38	36	64	0.9	0.8	0.8
Restaurants and hotels	178	169	598	4.1	3.8	7.9
Other goods and services	232	216	670	5.4	4.9	8.9
Durable goods	450	491	582	10.4	11.2	7.7
Total non-durables	3,876	3,906	6,978	89.6	88.8	92.3
<b>Total expenditures</b>	<b>4,326</b>	<b>4,396</b>	<b>7,560</b>	<b>100</b>	<b>100</b>	<b>100</b>

Sources: HBS 2011, SILC 2012, OECD

Next we look at how actual and imputed expenditure data compare across sources. From figure 3 it can be seen that there are quite large differences when comparing observed (and predicted) expenditure in HBS and expenditures imputed into SILC to figures provided by the OECD (national accounts). Total expenditure captured by the HBS makes up to 58% of what we see from the OECD data. Lowest coverage is achieved by expenditure on alcoholic beverages, tobacco and public transport. At least for alcohol and tobacco consumption this was an expected result. In part because of underreporting by the survey respondents but also in part because it is difficult to get an accurate picture of how much alcohol and tobacco is actually bought by Estonian households and how much is bought by tourists. Therefore, the national accounts data are likely to overestimate domestic consumption.

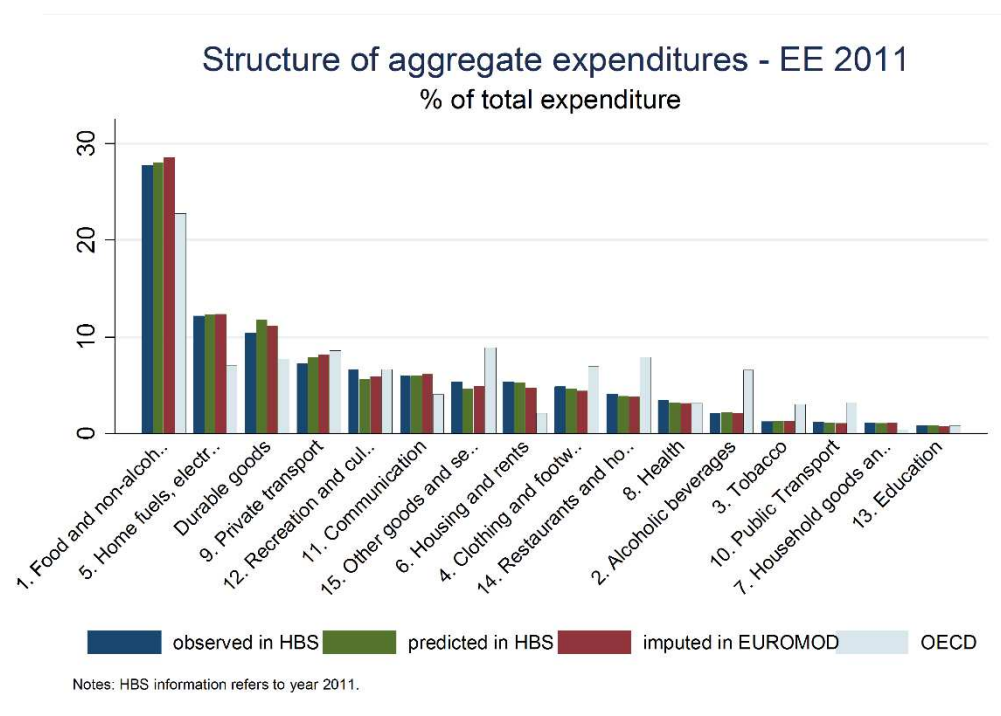
The match between actual HBS data and predictions into HBS is very good with almost no noticeable difference in most cases. Imputation into EUROMOD also matches up quite well with the actual HBS data. Total imputed expenditure covers around 102% of actual expenditure in the HBS. Biggest difference can be seen in housing and rents with the simulated expenditure reaching 92% of what is observed in HBS.

**Figure 3. Aggregate observed and imputed household expenditures by category, ratio to the OECD total, %**



Not surprisingly the most important expenditure category is 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.

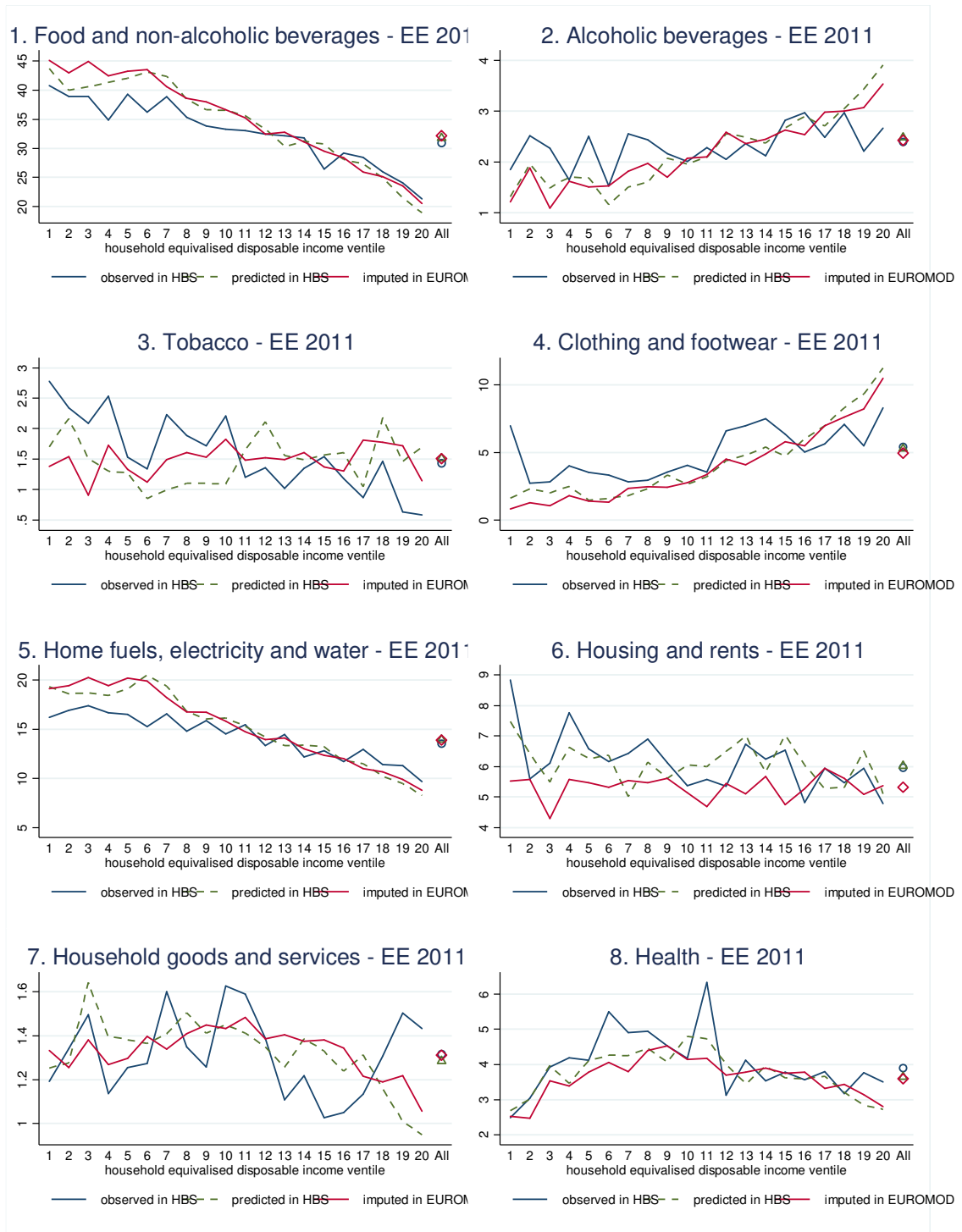
**Figure 4. Share of expenditures in HBS (2011), EUROMOD (2011 simulations) and OECD (2011) by expenditure category, % of total expenditure**

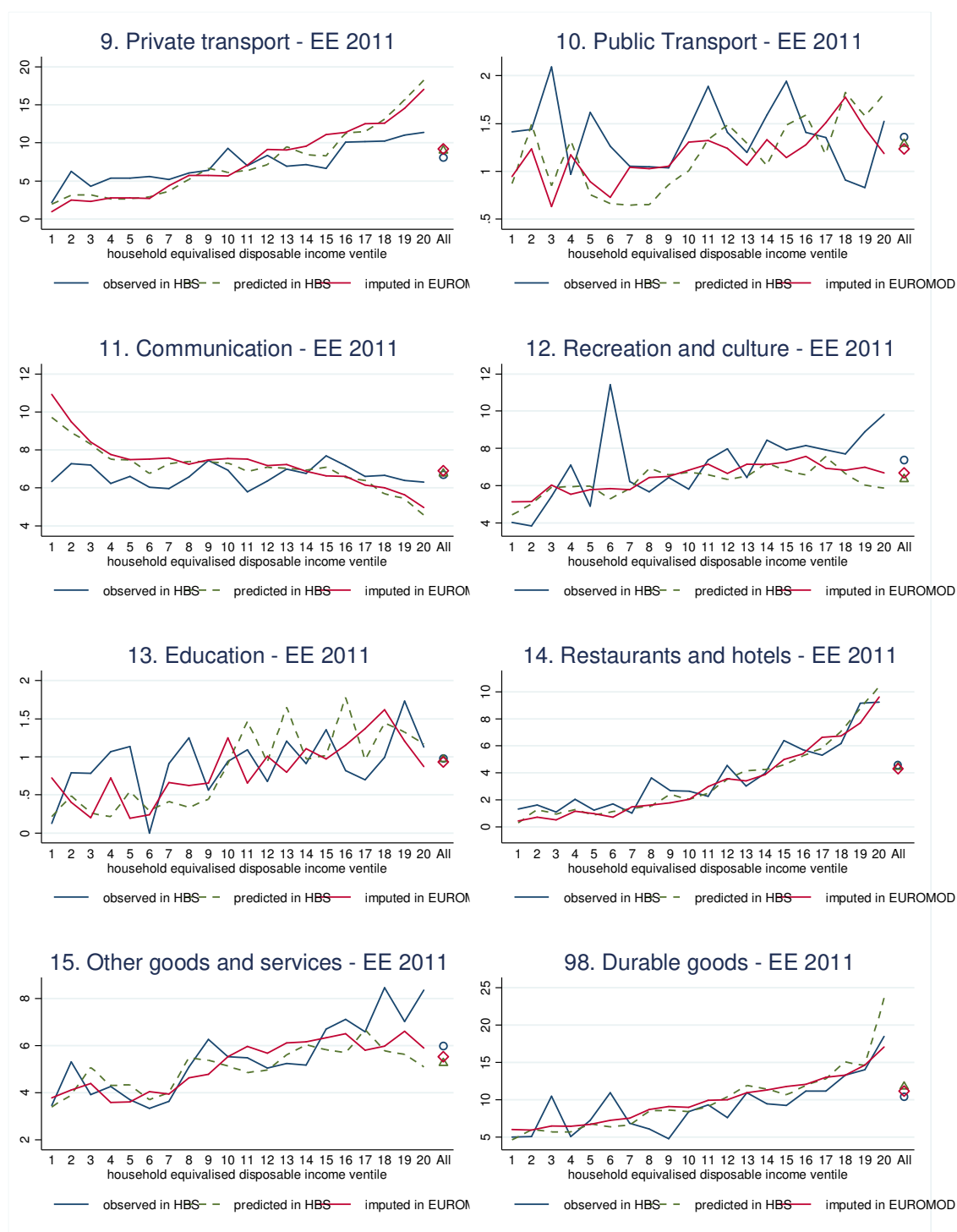


Finally, Figure 5 shows for each non-durable expenditure category its share in total non-durable expenditure and the share of durable expenditure in total expenditure by ventile of household equivalised disposable income, comparing observed and predicted values in HBS 2011 with imputed values in SILC.

Household expenditures for later years are simulated in real terms, i.e. on the basis of 2012-2016 incomes backrated to 2011. 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 (see Table 19 in Appendix).

**Figure 5. Share of expenditure by income ventile, % of nondurable/total expenditure**





Notes: HBS information refers to year 2011; non-durable expenditure categories shown as a share of total non-durable expenditures and durable expenditures as a share of total expenditures; ventiles constructed on the basis of household disposable income equivalised with the modified OECD scale, allocating the same number of households to each ventile.

Source: EUROMOD

#### 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.

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

Expenditure category	2011	2012	2013	2014	2015	2016
Food and non-alcoholic beverages	20.0	20.0	20.0	20.0	20.0	20.0
Alcoholic beverages	81.5	78.6	79.2	81.5	90.7	100.5
Tobacco	566.6	477.0	405.2	782.0	610.3	625.5
Clothing and footwear	20.0	20.0	20.0	20.0	20.0	20.0
Home fuels, electricity and water	23.4	23.1	22.7	23.0	23.4	23.7
Housing and rents	13.1	13.1	13.1	13.1	13.1	13.1
Household goods and services	20.0	20.0	20.0	20.0	20.0	20.0
Health	5.9	5.9	5.9	5.9	5.9	5.9
Private transport	60.5	59.3	61.1	58.5	65.9	76.7
Public Transport	20.0	20.0	20.0	20.0	20.0	20.0
Communication	19.7	19.7	19.7	19.7	19.7	19.7
Recreation and culture	18.2	18.2	18.2	18.2	18.2	18.2
Education	4.3	4.3	4.3	4.3	4.3	4.3
Restaurants and hotels	18.9	18.9	18.9	18.9	18.9	19.0
Other goods and services	10.9	10.9	10.9	10.9	10.9	10.9
Durable goods	19.2	19.2	19.2	19.2	19.2	19.2

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.



**Table 16. Indirect tax amounts 2011-2016**

		2011	2012	2013	2014	2015	2016
<b>VAT</b>	EUROMOD	679.2	744.2	797.3	836.1	870.3	906.9
	Actual	1343.3	1493.7	1550.6	1696.9	1858.4	
	Coverage	50.6%	49.8%	51.4%	49.3%	46.8%	
<b>Alcohol excise</b>	EUROMOD	26.9	28.5	30.9	33.4	38.0	42.6
	Actual	178.6	195.3	209.0	220.0	222.1	
	Coverage	15.0%	14.6%	14.8%	15.2%	17.1%	
<b>Tobacco excise</b>	EUROMOD	40.1	42.6	44.1	52.2	52.0	54.0
	Actual	144.5	158.3	166.6	178.2	183.5	
	Coverage	27.8%	26.9%	26.5%	29.3%	28.3%	
<b>Energy excise</b>	EUROMOD	88.0	93.6	101.9	104.0	123.3	146.7
	Actual	361.4	389.8	383.7	404.5	432.0	
	Coverage	24.4%	24.0%	26.6%	25.7%	28.5%	
<b>Total indirect taxes</b>	EUROMOD	834.2	908.9	974.2	1025.7	1083.6	1150.2
	Actual	2027.8	2237.0	2310.0	2499.6	2695.9	2695.9
	Coverage	41.1%	40.6%	42.2%	41.0%	40.2%	42.7%

Sources: EUROMOD, Statistics Estonia

From table 17 we can see the distribution of expenditure and indirect taxes across income deciles. It is expected that households with lower income spend a bigger share of their income and also pay a bigger share of their income as indirect taxes. Indirect taxes are quite strongly regressive – the households in the bottom decile pay over two times larger share of their income as tax than households in the top decile. Table 18 presents the same information by expenditure deciles and relative to total expenditure. We can see from the table that the share of VAT in expenditure is very uniform across the expenditure distribution while the share of excises in expenditure increases around 2.5 times from 1.8% for the low spenders to 4.5% for the highest spenders. Figure 6 to Figure 8 show the incidence of indirect taxes graphically.

**Table 17. Mean household income, expenditure and indirect 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	236.4	313.4	49.2	6.7	132.6%	20.8%	2.8%
2	367.2	348.8	54.5	7.4	95.0%	14.8%	2.0%
3	393.2	348.3	54.4	7.4	88.6%	13.8%	1.9%
4	530.9	439.3	68.1	12.4	82.7%	12.8%	2.3%
5	680.4	522.3	80.4	15.5	76.8%	11.8%	2.3%
6	859.6	631.6	97.4	21.2	73.5%	11.3%	2.5%
7	1002.9	696.5	107.1	24.8	69.4%	10.7%	2.5%
8	1228.6	804.3	123.6	30.4	65.5%	10.1%	2.5%
9	1458.3	904.2	138.9	39.0	62.0%	9.5%	2.7%
10	2243.9	1127.4	174.3	51.7	50.2%	7.8%	2.3%
<b>All</b>	<b>900.0</b>	<b>613.5</b>	<b>94.8</b>	<b>21.6</b>	<b>68.2%</b>	<b>10.5%</b>	<b>2.4%</b>

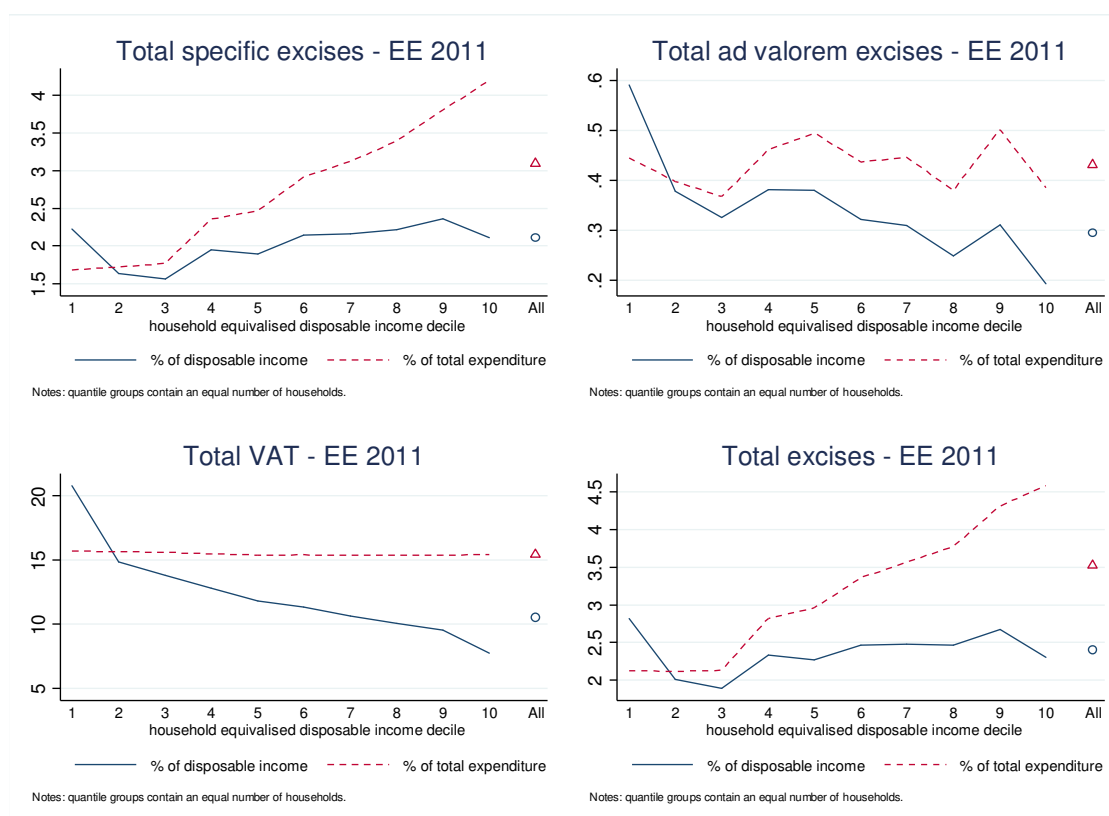
Notes: deciles are constructed on the basis of household disposable income equalised with the modified OECD scale, allocating the same number of households to each decile. Source: EUROMOD

**Table 18. Mean household income, expenditure and indirect taxes by expenditure decile, in 2011 Euro/month**

Expenditure decile	Disposable income	Expenditure	VAT	Excises	Share of VAT in expenditure	Share of excises in expenditure
1	339.7	250.0	39.8	5.0	15.9%	2.0%
2	395.8	308.5	48.4	5.6	15.7%	1.8%
3	488.4	373.0	58.1	8.7	15.6%	2.3%
4	600.3	467.3	72.0	12.8	15.4%	2.7%
5	751.9	546.1	84.0	16.7	15.4%	3.1%
6	863.3	625.4	96.3	21.8	15.4%	3.5%
7	1037.5	714.1	110.0	25.7	15.4%	3.6%
8	1229.5	809.1	124.5	30.0	15.4%	3.7%
9	1433.4	894.8	137.8	38.5	15.4%	4.3%
10	1861.5	1148.2	177.3	51.5	15.4%	4.5%
<b>All</b>	<b>900.0</b>	<b>613.5</b>	<b>94.8</b>	<b>21.6</b>	<b>15.5%</b>	<b>3.5%</b>

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.

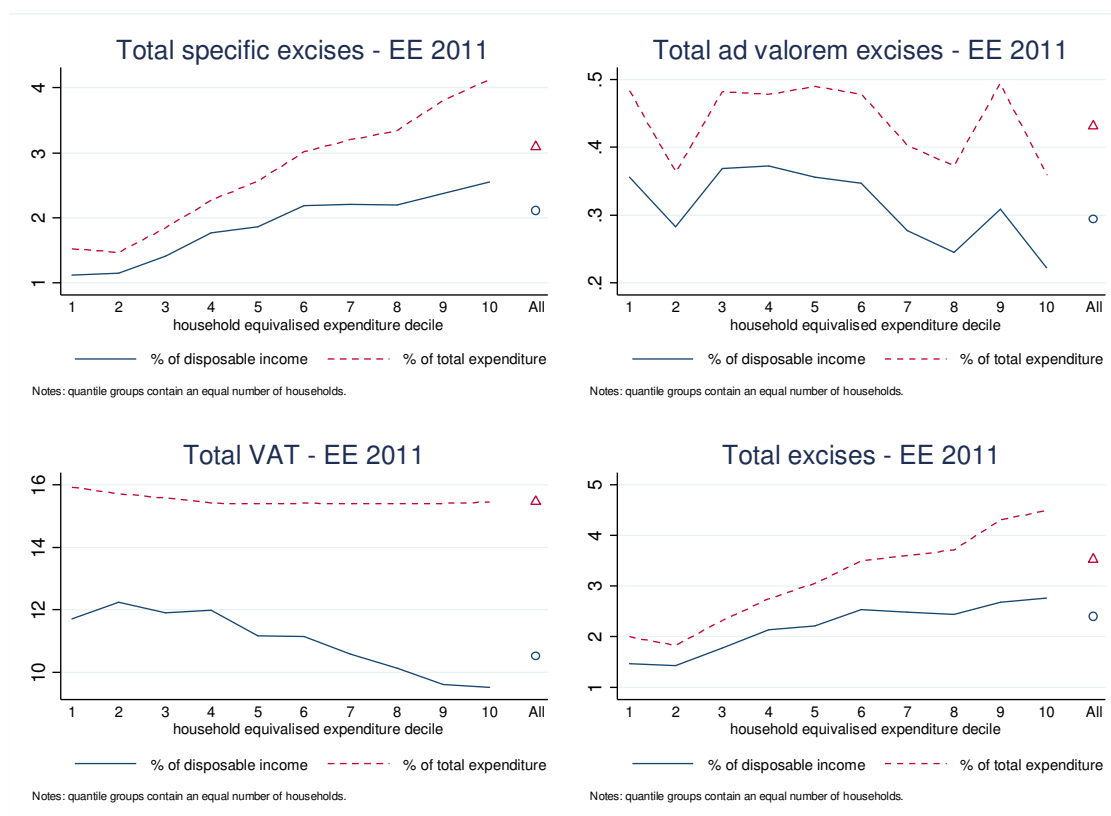
Source: EUROMOD

**Figure 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.

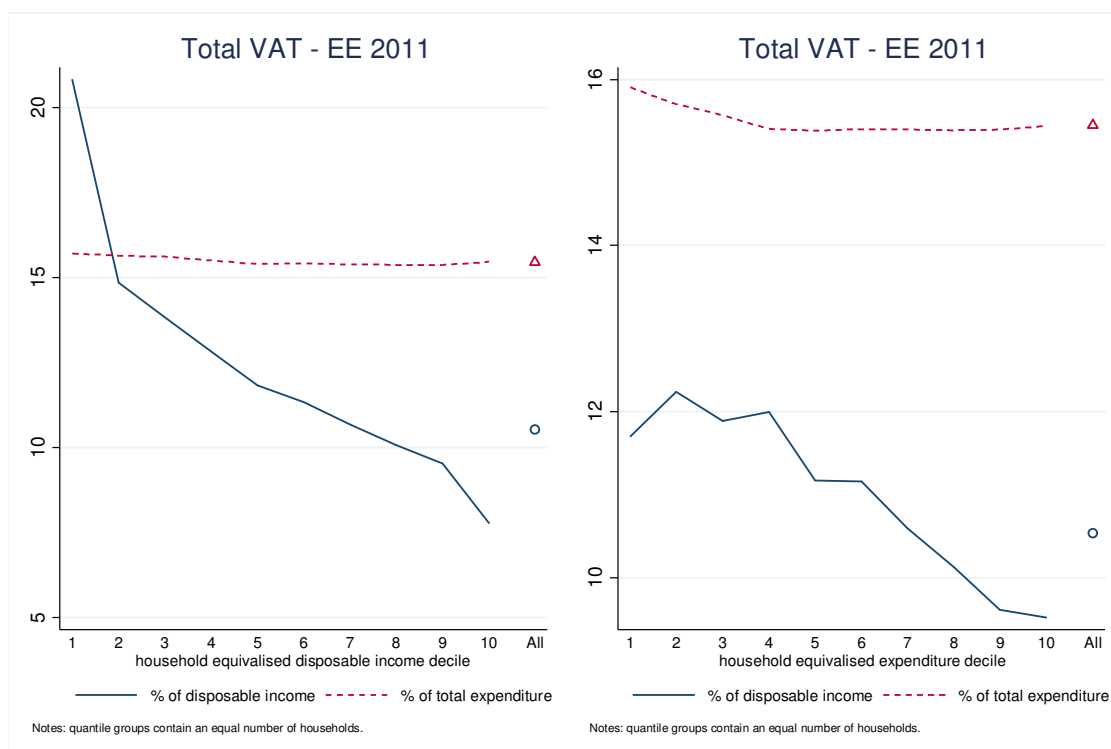
Source: EUROMOD

**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

**Figure 8. Total indirect taxes by expenditure/income decile, % of income and expenditure**



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

**ANNEX**

The VAT rate is 9 percent for:

- 1) books and workbooks used as learning materials, excluding learning materials that fall under the exemption
- 2) medicinal products, contraceptive preparations, sanitary and toiletry products and medical devices intended for the personal use of disabled persons
- 3) periodic publications, excluding publications mainly containing advertisements or personal announcements, or publications the content of which is mainly erotic or pornographic
- 4) accommodation services or accommodation services with breakfast, excluding any goods or services accompanying such services

The VAT is not imposed on the following goods and services:

- 1) universal postal services and payment of state pensions, benefits, support and compensation by means of post;
- 2) health services within the meaning of the Health Insurance Act and the supply of human organs or human tissue, human blood or blood product made from human blood, and breast milk, as specified in the list approved by a regulation of the minister responsible for the field
- 3) service provided by dental technicians in their professional activities and dentures transferred by dentists or dental technicians;
- 4) services provided by a non-profit association to its members free of charge or for a membership fee, and services provided by a non-profit association or foundation to natural persons relating to the use of sports facilities or sports equipment;
- 5) social services specified and social services financed out of the state or local government budget;
- 6) services relating to shelters for the protection of children and young persons;
- 7) pre-school, basic, vocational, secondary and higher education, including learning materials transferred by the education service provider to the recipient of the services, private tuition relating to general education and other training services, except other training services provided for business purposes;
- 8) transportation of sick, injured or disabled persons in vehicles which are specially designed for such purpose and which correspond to the requirements established on the basis of the Traffic Act.
- 9) services provided by independent associations of persons to their members provided that the following conditions are met: the supply of the recipient of the services is 90 per cent exempt from tax or the activities thereof are not subject to value added tax; the service is directly necessary for the main activity of the member and the fee paid for the service does not exceed the costs incurred upon the provision of the service.
- 10) insurance services, including reinsurance and insurance mediation;
- 11) the leasing or letting of immovables or parts thereof, establishment of a usufruct on immovables or parts thereof.
- 12) immovables or parts thereof
- 13) valid postal payment means of the Republic of Estonia if sold at their nominal value;
- 14) securities
- 15) lottery tickets and the organisation of gambling
- 16) investment gold, services relating to the transfer of investment gold or entry into a corresponding transfer agreement, or services relating to the supply thereof which are provided by an agent acting in the name and for the account of another person

- 17) goods, upon the acquisition of which there was no right for deduction of input value added tax, unless the goods were acquired before the registration of the acquirer as a taxable person or if, at the time of acquisition of the goods, the input value added tax had been deducted in part
- 18) certain financial services

Exemptions to energy excise:

- 1) fuel used for air navigation in civil aircraft operated for commercial purposes or in state aircraft, including fuel used for maintenance and repair on board of such aircraft
- 2) fuel processed or stored by shipchandlers for the purpose of use by ships operated by the armed forces
- 3) fuel used in a ship navigating for commercial purposes outside Estonian waters
- 4) diesel fuel for specific purposes used in fishing vessels upon fishing in Estonia or used for regular maintenance of such vessels for preparing the vessels for the next fishing
- 5) specialty and unconventional fuel-like mineral oil bottled in consumer packaging of up to one litre;
- 6) fuel and electricity used in mineralogical processes
- 7) solid fuels used in households as heating fuel
- 8) biofuels
- 9) electricity which forms on the average more than 50 per cent of the cost price of the product.

**Table 19. Index factor used for imputing expenditures**

<b>Year</b>	<b>Index (nominal values)</b>	<b>Index factor (2011=100)</b>
2011	7560	100.0
2012	8285	109.6
2013	8891	117.6
2014	9279	122.7
2015	9647	127.6
2016	10013	132.4

Source: OECD household expenditure data, Ministry of Finance spring 2016 forecasts, own calculations

**Table 20. Coded tax policy parameters in EUROMOD (and main assumptions)**

Tax policy parameter	Description	Notes	Source
\$VAT_zero	VAT zero rate		Riigi Teataja
\$VAT_reduced1	VAT reduced rate		Riigi Teataja
\$VAT_std	VAT standard rate		Riigi Teataja
\$VALOREM_CIGARETTES	ad valorem tax for cigarettes		Riigi Teataja
\$PRICE_SPIRITS	Price of spirits		<a href="https://www.sm.ee/sites/default/files/content-editors/Ministeerium_kontaktid/Uuringu_ja_analuusid/Tervisevaldkond/144774789351_alkoholi_turg_2015.pd.pdf">https://www.sm.ee/sites/default/files/content-editors/Ministeerium_kontaktid/Uuringu_ja_analuusid/Tervisevaldkond/144774789351_alkoholi_turg_2015.pd.pdf</a>
\$SPECIFIC_SPIRITS	Excise for other alcohol	based on 40% alcohol content	Riigi Teataja
\$PRICE_BEER	Price of beer		<a href="https://www.sm.ee/sites/default/files/content-editors/Ministeerium_kontaktid/Uuringu_ja_analuusid/Tervisevaldkond/144774789351_alkoholi_turg_2015.pd.pdf">https://www.sm.ee/sites/default/files/content-editors/Ministeerium_kontaktid/Uuringu_ja_analuusid/Tervisevaldkond/144774789351_alkoholi_turg_2015.pd.pdf</a>
\$SPECIFIC_LONGDRINK	Excise for other alcohol	based on 4.5% alcohol content	Riigi Teataja
\$SPECIFIC_BEER	Excise for beer	based on 5% alcohol content	Riigi Teataja
\$PRICE_WINE	Price of wine	2011 price from HBS and indexed with CPI	HBS
\$SPECIFIC_WINE_STRONG	Excise for wines and other fermented beverages with alcohol content over 6%		Riigi Teataja
\$SPECIFIC_WINE_WEAK	Excise for wines and other fermented beverages with alcohol content under 6%		Riigi Teataja
\$PRICE_TOBACCO	Price of tobacco	2011 price from HBS and indexed with CPI	HBS
\$SPECIFIC_TOBACCO	Excise for tobacco		Riigi Teataja
\$PRICE_ELECTRICITY	Price of electricity		<a href="https://energiatalgud.ee/">https://energiatalgud.ee/</a>
\$SPECIFIC_ELECTRICITY	Excise for electricity		Riigi Teataja

Tax policy parameter	Description	Notes	Source
\$PRICE_NATURAL_GAS	Price of natural gas		<a href="https://energiatalgud.ee/">https://energiatalgud.ee/</a>
\$SPECIFIC_NATURAL_GAS	excise for natural gas		Riigi Teataja
\$PRICE_LIQUID_PETROLEUM_GAS	Price for liquid petroleum gas		<a href="http://www.saaregaas.ee/gaasihind-labi-aegade/">http://www.saaregaas.ee/gaasihind-labi-aegade/</a>
\$SPECIFIC_LIQUID_PETROLEUM_GAS	Excise for liquid petroleum gas		Riigi Teataja
\$SPECIFIC_DIESEL	Excise for diesel		Riigi Teataja
\$PRICE_DIESEL	Price of diesel		<a href="http://www.1181.ee/kytusehinnad/Area/1%2031%20juuni%20seisuga,%20diisel">http://www.1181.ee/kytusehinnad/Area/1 31 juuni seisuga, diisel</a>
\$PRICE_PETROL	Price of petrol	based on fuel type 95	<a href="http://www.1181.ee/kytusehinnad/Area/1%2031%20juuni%20seisuga,%2095">http://www.1181.ee/kytusehinnad/Area/1 31 juuni seisuga, 95</a>
\$SPECIFIC_PETROL	Excise for petrol		Riigi Teataja
\$PRICE_KEROSENE_HEAVYFUELOIL	Price for kerosene and heavy fuel oil	50/50 split	<a href="https://www.stat.ee/">https://www.stat.ee/</a>
\$SPECIFIC_KEROSENE_HEAVYFUELOIL	Excise for kerosene and heavy fuel oil	50/50 split	Riigi Teataja
\$PRICE_CIGARETTES	Price of cigarettes	2011 price from HBS and indexed with CPI	HBS
\$SPECIFIC_CIGARETTES	Excise for cigarettes		Riigi Teataja