



# BRILLIANT

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#### Report on model of macroeconomic effect of new Nuclear build program in Baltic countries

Authors: Vidas Lekavičius (LEI), Viktorija Bobinaitė (LEI), Arvydas Galinis (LEI), Ramūnas Gatautis (LEI), Inga Konstantinavičiūtė (LEI), Vaclovas Miškinis (LEI), Eimantas Neniškis (LEI), Egidijus Norvaiša (LEI), Aušra Pažėraitė (LEI), Agris Auce (UL), Elina Piraga-Berjoza (UL), Alan Tkaczyk (TARTU), Dagmar Nurges (TARTU), Gagatay Ipbüker (TARTU)

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## 1 INTRODUCTION

Due to the large scale of nuclear projects, they might have a considerable economy-wide impact. This impact usually has both positive and negative sides but current development trends of nuclear power highlight negative macroeconomic impacts determined by high investment and increasing energy costs. Therefore, gaining and maximisation of the net positive impacts is the aim of any country or region that is going to implement nuclear power as electricity generation source.

This report presents the main results of regional cooperation on development of the framework for the economy-wide evaluation of macroeconomic impacts of a nuclear program in the BRILLIANT project. To analyse macroeconomic impacts of nuclear newbuild projects both at single-country and regional levels, an MS Excel-based model BRImpacts has been created by the researchers of the Lithuanian Energy Institute. This model is based on social accounting matrix (SAM) framework and shares the most of methodological principles of input-output analysis.

This report is structured as follows: the next part of this report presents the structure and features of the model, the third part presents some illustrative calculations, and the fourth part sets the conclusions. The information about the aggregation of products and activities as well as social accounting matrices used in the model are presented in the appendices that could be used as a basis for future research.

## 2 MODEL DESCRIPTION

### 2.1 Methodology and model interface

The BRImpacts model is based on social accounting matrix framework (see [1-3] for the description of compilation procedures) that covers all transactions in the economy and depicts closed circles of both monetary and commodity flows. This methodological choice has been determined by the fact that macroeconomic impacts of nuclear projects at large extent depend on the factors that are not covered by traditional input-output tables and their capability to depict a broad range of properties of nuclear projects is very limited. Although data requirements for SAM framework are considerably higher, it allows the representation of not only resources used but also other transactions such as financing flows. Moreover, social accounting matrices are used as the central data for CGE modelling that is expected to be a further step of the present analysis.

The social accounting matrix used in the model depicts 19 activity and commodity groups (see Appendix 1 for a complete list), labour and capital as production resources, various transactions (property income; taxes on production, products, income wealth, etc.; social contributions and benefits; other transfers), households, corporations, government and rest of the world sectors.

The principle of the model is similar to the traditional input-output analysis: the model is introduced with some changes in the matrix and tries to re-balance it. In other words, the model aims at reaching a new equilibrium point which reflects exogenously described changes such as investments related to the building of a new nuclear power plant. To allow for more flexibility in the formation of cases to be analysed, the model is expressed as a linear programming exercise and solved using OpenSolver [4] software<sup>1</sup>.

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<sup>1</sup> <https://opensolver.org/>

Due to this fact, most of the limitations of input-output modelling such as the absence of price effects and capacity constraints are valid also for the BRImpacts model.

The model interface comprises of several MS Excel sheets summarised in Fig. 1.

Sheet Name	Description
<a href="#">Model_controls</a>	Choice of simulation options
<a href="#">Results</a>	Results of simulations
<a href="#">SAMSensitivitopia</a>	Social accounting matrix to run sensitivity analyses
<a href="#">InvSensitivitopia</a>	Expected participation levels to run sensitivity analyses
<b>SAMO</b>	Calculation sheet
<b>SAMEE</b>	Social accounting matrix for Estonia
<b>SAMLV</b>	Social accounting matrix for Latvia
<b>SAMLT</b>	Social accounting matrix for Lithuania
<b>SAMBalticSimple</b>	Social accounting matrix for Baltic countries
<b>InvestmentEE</b>	Investment cost structure for Estonia. Data prepared by Dagmar Nurges (University of Tartu). See Brilliant D4.2 report for the description of data.
<b>InvestmentLV</b>	Investment cost structure for Latvia. Data prepared by Elina Piraga-Berjoza (University of Latvia). See Brilliant D4.2 report for the description of data.
<b>InvestmentLT</b>	Investment cost structure for Lithuania. Data prepared by Laurynas Jocys (UAB VAE SPB). See Brilliant D4.2 report for the description of data.
<b>INVEE</b>	Expected participation of Estonian suppliers
<b>INVLV</b>	Expected participation of Latvian suppliers
<b>INVLT</b>	Expected participation of Lithuanian suppliers
<b>InvBalticSimple</b>	Expected participation of suppliers from the Baltic region (EE+LV+LT)

*Fig. 1. The content of the model*

There are separate sheets for the user to choose simulation options (*Model\_controls*), get results' output (*Results*), run sensitivity analyses (*SAMSensitivitopia* and *InvSensitivitopia*). A number of sheets is marked in red. These sheets are meant to be used by more advanced users, but they are still accessible to ensure transparency of the model.

The main model controls are depicted in Fig. 2.

Case		SAMSensitivotopia
Year of a nuclear programme		-1 yr
Financing of investment		Foreign savings
<p>BRImpacts                  version 0.5                  © Lithuanian Energy Institute</p>		<p>Solve model for selected year</p> <p>Continuous simulation of entire nuclear power programme</p> <p>Solved 2018.05.22 18:48:41</p> <p><a href="#">Results</a></p>

*Fig. 2. Model controls*

There are five pre-defined groups of geographical cases to be analysed: SAMEE – Estonian case, SAMLV – Latvian case, SAMLT – Lithuanian case, SAMBalticSimple – Baltic case, and SAMSensitivotopia – a case to run sensitivity analyses. SAMBalticSimple uses simplified social accounting matrix for Baltic countries (the trade among Baltic countries is removed from the SAM, but inter-country transactions are still expressed as transactions with the rest of the world) The last case is a copy of SAMBalticSimple, but it might be used for different sensitivity analyses.

The investment cost structures to nuclear power are described by year before the operation in separate sheets. For instance, the sheet called *InvSensitivotopia* describes the investment and expected local participation levels in the fictitious region called

“Sensitivitopia”. The sensitivity analysis can be run by introducing various changes to this sheet.

Model dynamics is determined exclusively by the year before operation of a nuclear power plant, and the same base SAMs are used for the simulations of every year. On the one hand this approach ignores cumulative macroeconomic effects, but on the other hand, it allows for great flexibility to solve the model for separate years and to ensure better transparency of the results.

Two investment financing modes are introduced to the basic version of the model. In Foreign savings mode, the investment is assumed to come from the rest of the world, and there are no impacts on other domestic investments (no crowding-out effects). This mode realistically reflects situations when large nuclear investments are financed either by direct foreign investments or by loans from other jurisdictions. Such financing strategy has only indirect impacts on investments (fixed capital formation) in other sectors due to increasing demands for some investment commodities and services. Otherwise, investments in other sectors are not affected. Also, possible mobilisation of structural funds or another kind of external subsidies can be expressed by this mode.

In Domestic savings mode, the investment is financed from domestic savings and investments to the gross fixed capital formation in other industries are proportionally reduced by the amount of investment needed for the building of a nuclear power plant. This option might be seen not realistic enough since it is hard to believe that all the economic activities would agree to pass a part of their foreseen activities to a nuclear project. However, Domestic savings mode represents a kind of boundary conditions in case if the investment comes from domestic sources and there are some crowding-out effects.

In both cases, economy-wide long-term impacts also depend on the price regime and profit/loss distribution, since the operation phase of a nuclear plant includes investment/loan payback. Directions of this payback might be different depending on

the primary source of investment, but there still are some uncertainties regarding possible reinvestment inside the country or region under consideration.

## 2.2 Data sources

The main data source for the model was official Eurostat database. The tables used were supply and use tables as well as the statistics on nonfinancial transactions. Also, additional Eurostat data about the employment levels etc. have been used in the model. All the data collected reflect the situation in 2010 which is the base year for BRImpacts model.

The example of a SAM created in BRILLIANT project by Lithuanian Energy Institute and used in the model is depicted in Fig. 3, while detailed SAMs for all the countries analysed are included as appendices of this report.

Fig. 3. A social accounting matrix used in BRImpacts model

The SAM compilation procedures revealed that the level of inconsistencies in the SAMs of Baltic countries is different. The Estonian SAM had only minor inconsistencies, Lithuanian SAM had two relatively small inconsistencies, while inconsistencies in Latvian SAM were the biggest (mainly due to inconsistency between the statistics on



non-financial transactions and supply and use tables), but still acceptable. All the SAMs were balanced by using the same numerical procedures that aim at minimising relative changes in the statistics-based and inconsistent matrices.

As mentioned, SAM for the Baltic region has been created by summing SAMs for separate countries and by removing inter-country trade flows. In case of services and other activities that are not depicted in trade statistics, inter-regional trade levels can be changed by the user. In the basic version of the model, it is assumed that 20 percent of imports of construction, trade, transport, and finance services reflects inter-regional trade.

The data about nuclear projects were collected by BRILLIANT project partners and described in D4.2. The main properties of the project are the capacity of 1384 MW an investment cost 5 billion Eur (see D4.1 for the discussion of possible cost deviations) excluding additional costs related to infrastructure like roads, bridges etc. In the analysis of nuclear new build programme for Baltic region, expected country participation levels are summed. In case if the sum exceeds the total requirement, regional participation level is reduced to the total requirement. In other words, it is assumed that the issue of overlapping competences is the case only if the region can supply more than the project requires.

## 3 ILLUSTRATIVE CALCULATIONS

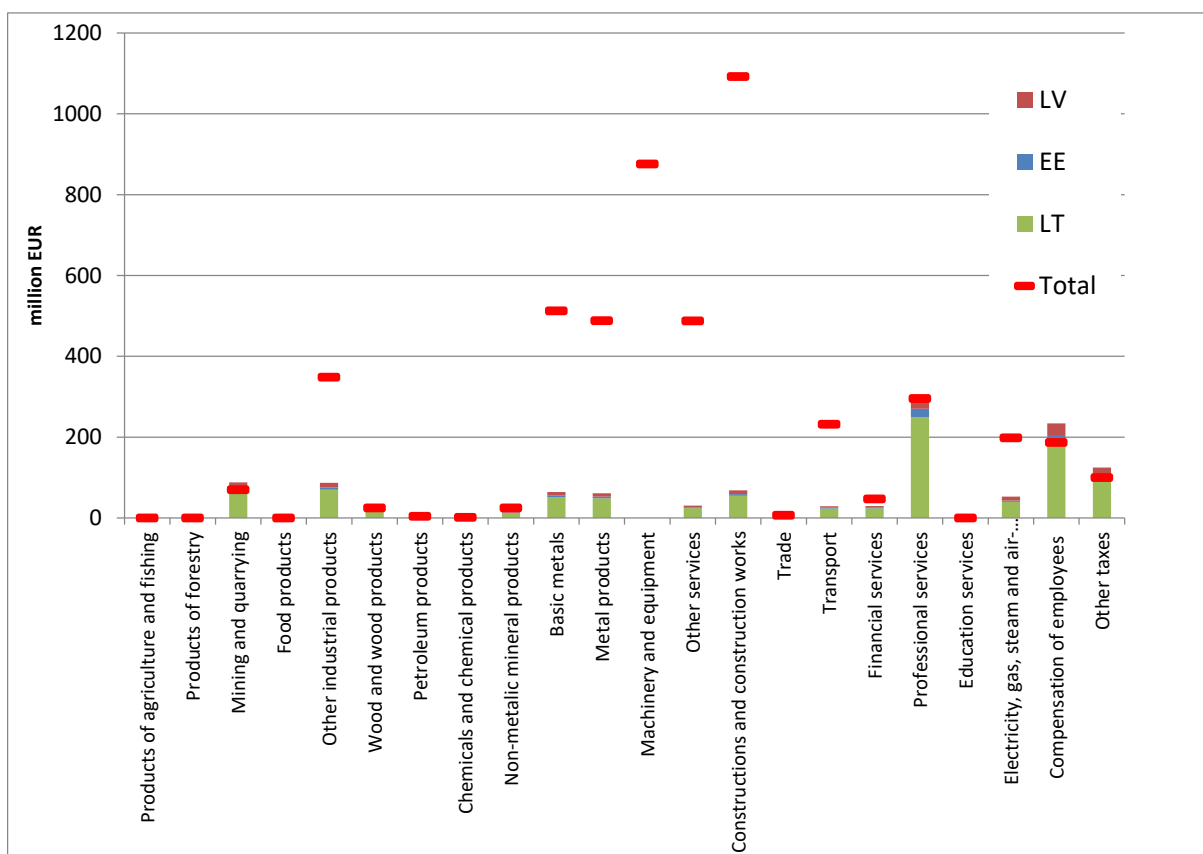
### 3.1 The cases analysed

The cases presented in this research reflect the analysis of a single country (Lithuania is taken as an illustrative case) and the entire Baltic region (Estonia, Latvia and Lithuania). Also, the model has been run in two different modes, in which the investment is either foreign or domestic-sourced.

The properties of nuclear projects were defined by BRILLIANT project partners (UAB “VAE SPB” decomposed the total investment by input type, while expected national participation levels by year and products have been estimated by the University of Tartu for Estonia, University of Latvia for Latvia, and UAB “VAE SPB” for Lithuania, see D4.2 for the comprehensive description).

The total local participation level is estimated to be around 81.32 million Euro for Estonia, 146.57 million Euro for Latvia, and 975.89 million Euro for Lithuania, which makes less than 24 percent for the entire region.

The expected participation levels are summarised in Fig. 4, which also provides assumed total requirements of different types of inputs. The best match between the regional capacity and requirements is observed in mining and quarrying, professional services, wood and wood products, while the potential to supply the products and services of other types is expected to be lower. For instance, it is assumed that all the machinery and equipment will come from the rest of the world mainly due to the low involvement of Baltic enterprises to global nuclear supply chains.



*Fig. 4. Local participation levels by country and industry*

Supply Chain Analysis for Visaginas NPP suggests that Region's capacity in civil construction area is 70 percent or 700 million euro [5], but the current estimation is only 68.3 million for the entire region. This mismatch could be explained by the recent changes (Supply Chain Analysis has been prepared in 2010), but it certainly shows that there are specific areas in which local participation might be increased.

### 3.2 Overview of macroeconomic impacts of a nuclear build programme in Baltic countries under the cases analysed

The BRImpacts model allows the analysis of different social and macroeconomic indicators taking into account the limitations of the methodology used. An overview of the most important indicators (GDP, value added, output, taxes, and employment) under four cases with different geographical coverage (Lithuania and Baltic region) and investment financing sources (foreign or domestic savings) is presented in this chapter.

The impacts on the gross domestic product in terms of percentage changes is presented in Fig 5.

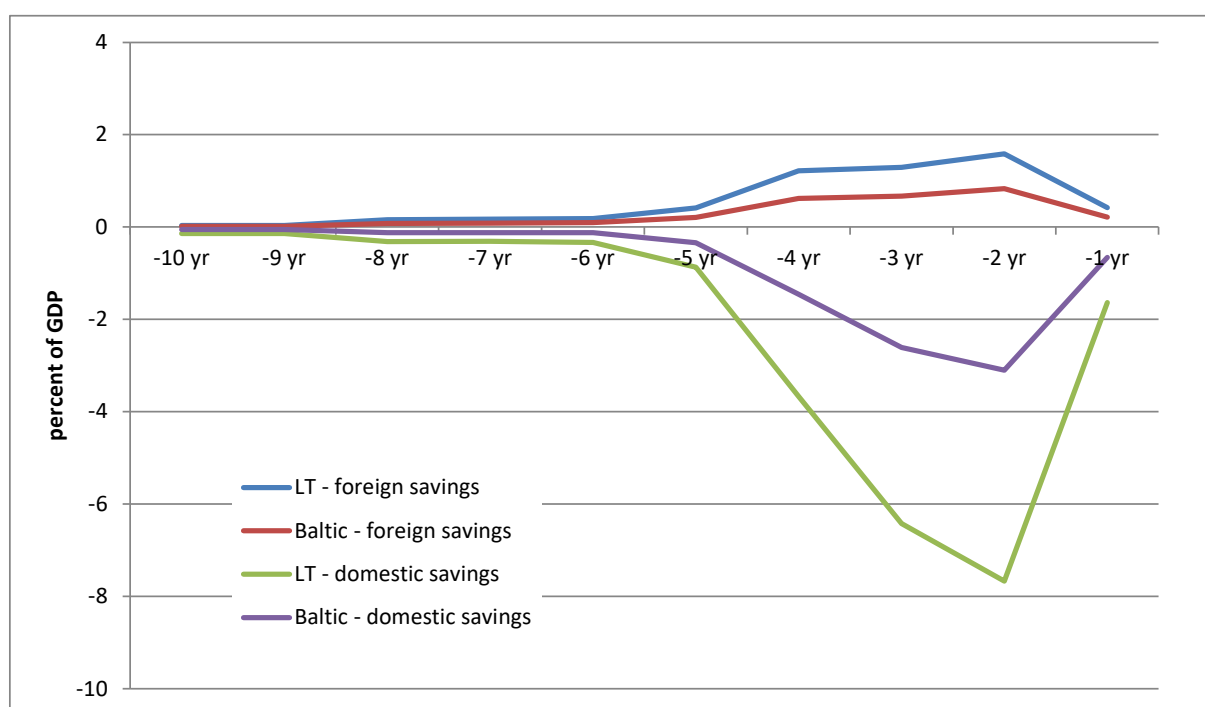


Fig 5. GDP impacts, percent of base year level

The picture reveals that, under the cases analysed, the positive GDP impact might be expected only in case if the investment is financed by foreign savings and does not affect the investment formation in other activities of domestic economy. The most prominent magnitude of GDP impacts is observed in the second year before operation of a nuclear power plant when the most significant share of investment is made.

The percentage value of GDP impact depends also on the baseline level, which is naturally higher in the cases for the entire Baltic region. GDP impacts in absolute terms are depicted in Fig. 6.

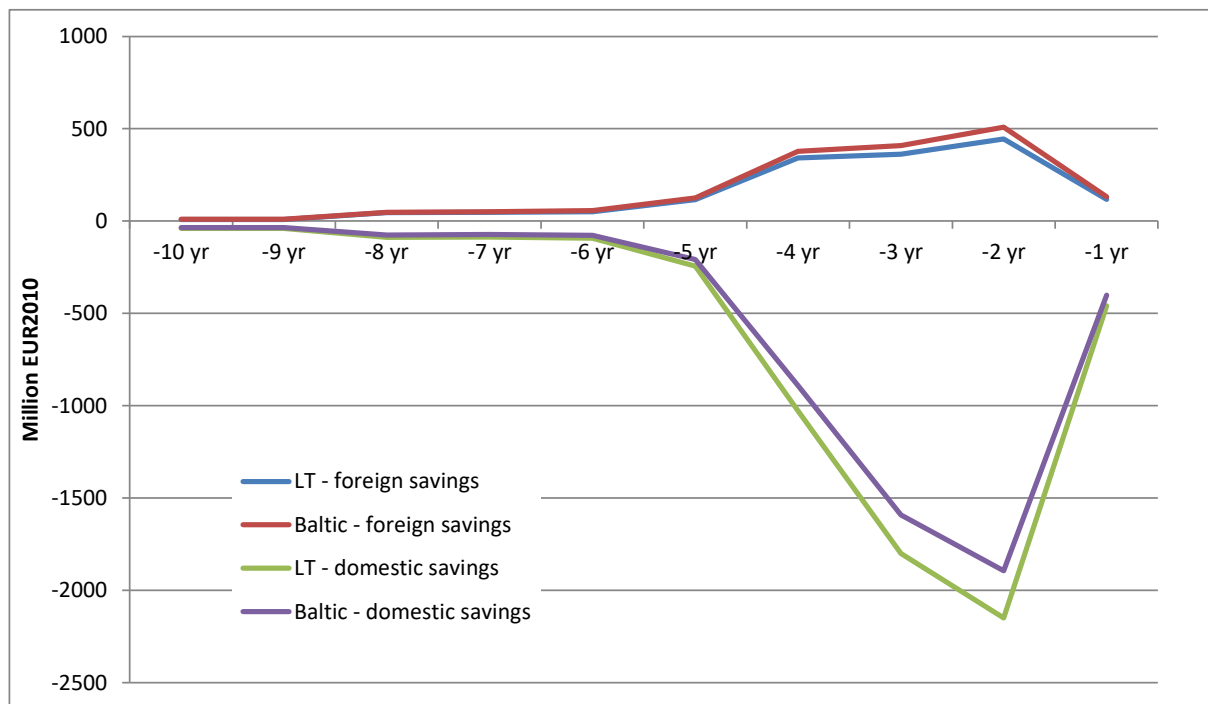


Fig. 6. Absolute GDP impacts compared to the base year level

The scenarios with Baltic cooperation on nuclear projects demonstrate slightly better GDP impacts. In case of foreign savings, the difference is very modest due to assumed relatively low participation levels of Baltic partners. In case of domestic savings and Baltic cooperation, there are two effects: less money is spent abroad due to higher local participation, and the investment to nuclear replaces less domestic investment. Also, the structures of gross fixed capital formation in Lithuanian and Baltic cases are different. Thus, the cooperation in the nuclear field among Baltic countries might help to increase the GDP impacts in both cases of investment financing, although the basis of this increase is different.

The general impacts on economic activity level are depicted in Fig. 7.

	LT - foreign savings	Baltic - foreign savings	LT - domestic savings	Baltic - domestic savings	LT average	Baltic average
AAGRI	7.63	7.80	-28.01	-22.73	<b>-10.19</b>	<b>-7.46</b>
AFOREST	0.89	2.37	-2.40	-6.15	<b>-0.75</b>	<b>-1.89</b>
AMINING	7.44	8.27	5.22	3.34	<b>6.33</b>	<b>5.80</b>
AFOOD	13.64	14.87	-43.40	-37.71	<b>-14.88</b>	<b>-11.42</b>
AOTHIND	19.14	21.53	-44.71	-48.80	<b>-12.79</b>	<b>-13.63</b>
AWOOD	4.30	6.69	-5.99	-16.87	<b>-0.84</b>	<b>-5.09</b>
AOILCH	14.45	11.47	-44.11	-30.05	<b>-14.83</b>	<b>-9.29</b>
AMINERAL	2.24	3.32	-5.06	-11.20	<b>-1.41</b>	<b>-3.94</b>
ABMETAL	5.41	7.94	4.13	3.07	<b>4.77</b>	<b>5.51</b>
AMETAL	7.53	9.31	-8.97	-14.82	<b>-0.72</b>	<b>-2.75</b>
AEQUIPM	1.81	2.69	-22.63	-34.91	<b>-10.41</b>	<b>-16.11</b>
AENERGY	19.86	24.55	-44.30	-41.33	<b>-12.22</b>	<b>-8.39</b>
ASERVICES	60.46	81.92	-219.70	-224.48	<b>-79.62</b>	<b>-71.28</b>
ACONSTR	10.70	15.26	-287.03	-300.72	<b>-138.16</b>	<b>-142.73</b>
ATRADE	23.28	27.72	-98.58	-105.35	<b>-37.65</b>	<b>-38.82</b>
ATRANSP	16.89	23.82	-48.99	-60.02	<b>-16.05</b>	<b>-18.10</b>
AFINANCE	9.83	11.64	-17.61	-18.38	<b>-3.89</b>	<b>-3.37</b>
APROF	33.95	38.88	-21.35	-23.78	<b>6.30</b>	<b>7.55</b>
AEDUCATION	10.24	11.03	-33.01	-27.66	<b>-11.39</b>	<b>-8.32</b>

Fig. 7. Absolute changes in output by economic activity in million Euro

In most of the cases, the impacts are diverse depending on the financing options. This is determined mainly by the high import requirements for the nuclear project which replaces domestically based investment in domestic savings case and by the differences of cost structures in gross fixed capital formation (usually more domestic inputs are used to form investment goods).

The most positive impacts in foreign savings case are observed in services, but this activity along with construction are among those activities where the biggest output drop is observed under domestic savings case. However, there are certain activities those outputs increase in both cases of investment financing. Due to relatively high requirements and local potential, this is observed for mining and basic metals. Also, it might be noted that rather positive average impacts are observed for professional activities.

Impact on the net taxes (taxes minus subsidies) on production is depicted in Fig. 8.

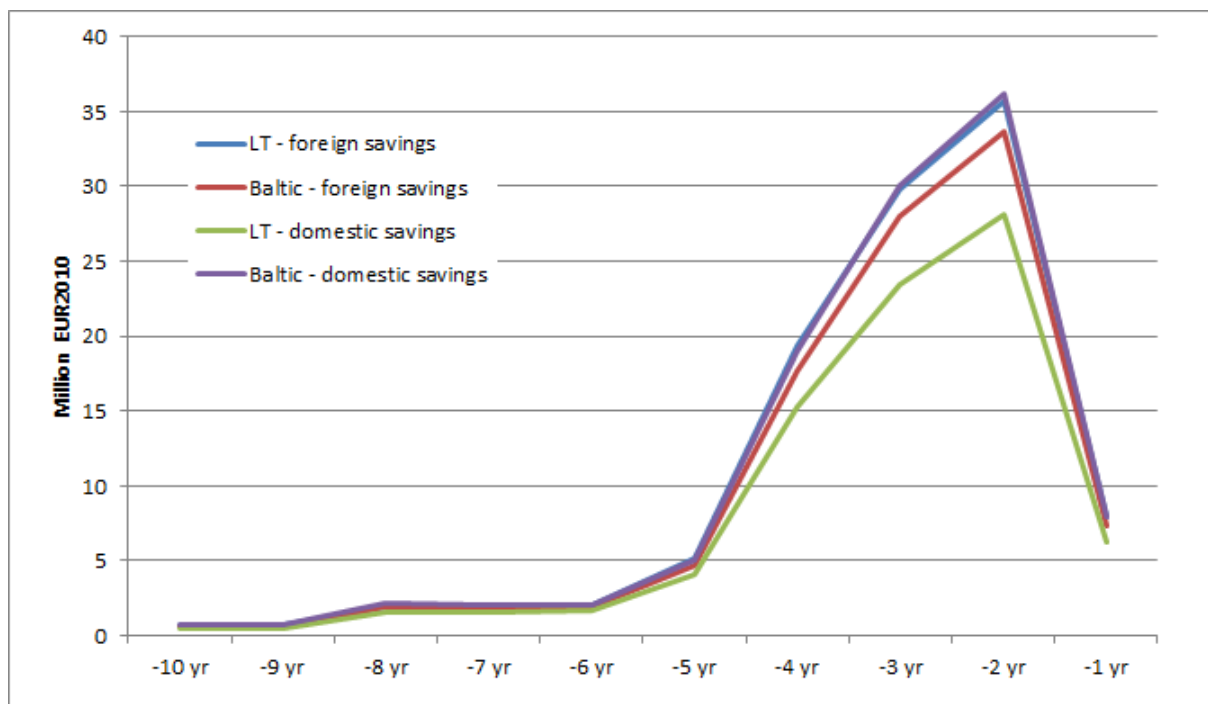
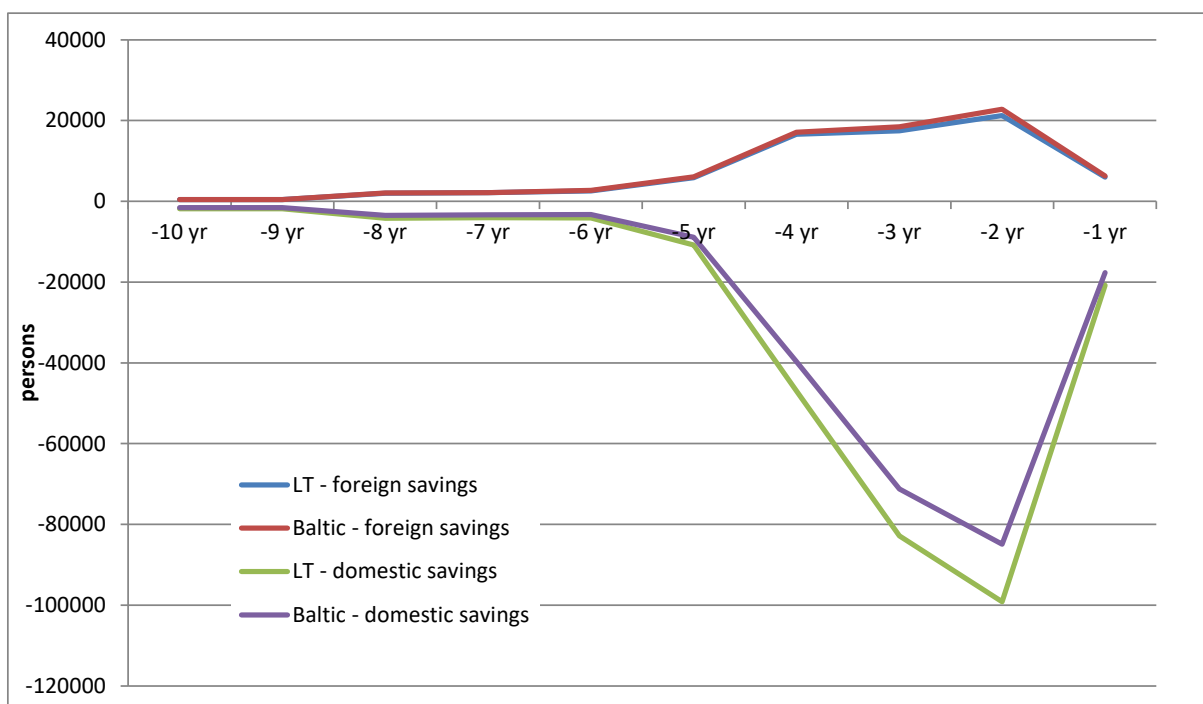


Fig. 8. Absolute impacts on the net taxes on production

All the cases analysed demonstrate positive impacts reaching more than 35 million Euro in the year 2 before operation of a nuclear power plant under the case of foreign savings. Such an impact is mainly determined by the taxes on production assumed in the cost structures of investment to a nuclear power project, while deviations reflect the economy-wide impacts on this type of taxes.

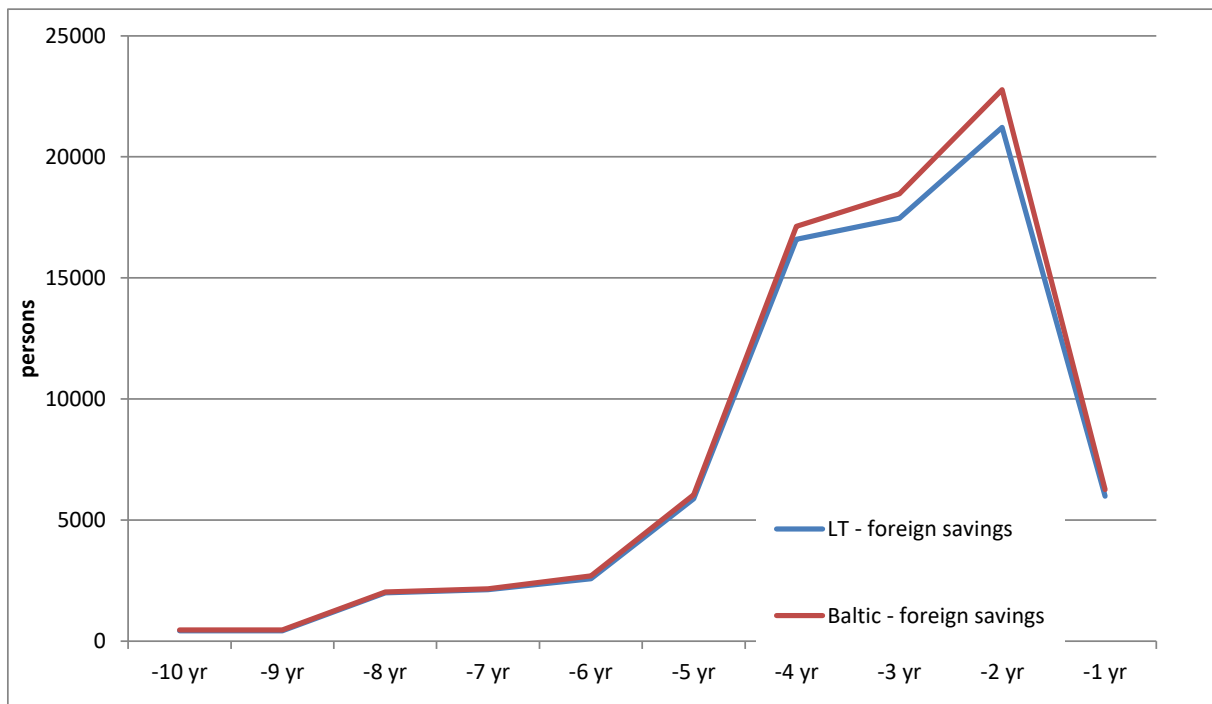
Absolute employment impacts are depicted in Fig. 9.



*Fig. 9. Absolute employment impacts compared to the base year level*

At large extent, these impacts reflect the same trends that have been observed on GDP levels (see Fig. 6): increase in employment under foreign savings cases and decrease under domestic savings cases. Although some relative differences are observed due to different labour roles in value-added formation (labour input to the value-added formation in the activity), the general trend is that more positive impacts are observed under regional cooperation cases. For example, in the year 2 before the operation, the difference between employment levels in single-country and regional cases may reach 1.5 thousand persons under foreign savings case (see Fig. 10).





*Fig. 10. Absolute employment impacts compared to the base year level under foreign savings cases*

The possible impact of increasing local participation levels has been studied under several sensitivity cases (Sensitivitopia cases have been used). Fig. 11 shows sensitivity cases with the increased local participation of suppliers from the Baltic region to 90 percent of construction works and to 100 percent of the total inputs. The latter hypothetical case draws some boundaries of the possible impact of increasing local participation levels in nuclear projects.

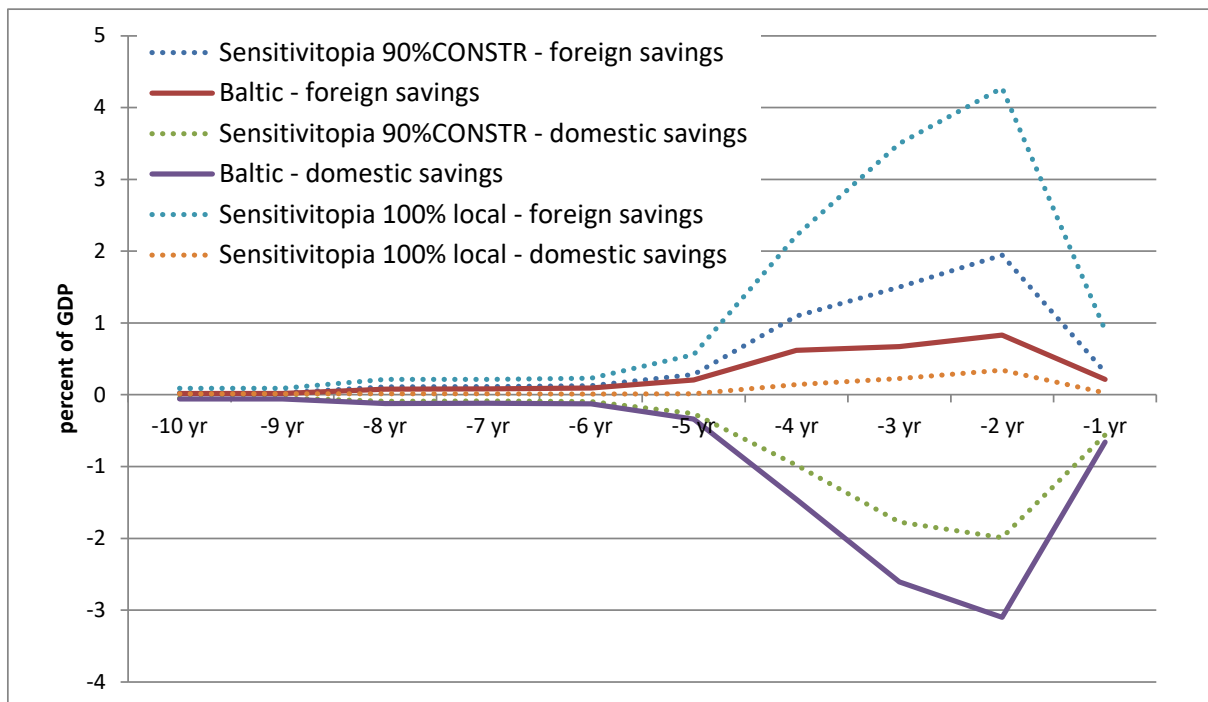


Fig. 11. Absolute GDP impacts compared to the base year level

As it can be seen from the figure, the increase of local participation levels has a positive impact on the GDP. The case of 100 percent local inputs demonstrates the highest GDP growth that is positive even in domestic savings case. This means that in this case investment to nuclear power would have more positive short-term GDP impacts than baseline investment structure.

## 4 CONCLUSIONS

The work done goes far beyond the task 4.3 description in project proposal in several extents. First of all, instead of using the relatively simple Input-output methodology, more advanced social accounting matrix framework is used as a basis for BRImpacts model developed by Lithuanian Energy Institute. Second, social accounting matrices for Estonia, Latvia, and Lithuania have been created and used in the model and also published as appendices of this report. These matrices, as well as the model, can be used for economic analyses not only of nuclear projects but also in a wide variety of other fields. Third, geographical coverage of the model allows the analysis of the situation in any Baltic country considered. Although the intention was to compare single-country and regional approaches, current situation suggests that the probability of hosting a nuclear project is similar for all Baltic countries analysed in WP4 (see D4.1 report of the BRILLIANT project). As a reaction to the uncertain structure of nuclear projects and limited information flows from other tasks, the flexibility to reflect different possibilities was selected as one of the priorities in modelling task. Also, the model has been employed with the straightforward and very friendly user interface based on simple MS Excel sheets to reduce the burden related with the initial application of the model.

The calculations provided in the report show that the regional cooperation makes the investment to nuclear power a bit more attractive from the macroeconomic point of view, but the impact is very modest due to relatively low participation levels of Estonian and Latvian industries. The increase of local participation levels is a way to obtain more positive macroeconomic impacts of nuclear investments. The availability of foreign investment or another nondomestic financing source along with a fair risk allocation (without additional risk/cost burden for consumers or participating countries) would be a crucial factor in the success of nuclear power in the Baltic region.

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The additional infrastructure development needs (e.g., building of bridges and roads) would have additional macroeconomic impacts. It should be noted that their direction and scale would depend not only on financing mode, but also on the cost structure of the investment (it might be expected that some infrastructure development actions would require more local inputs than nuclear power plant building process).

## 5 REFERENCES

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## APPENDIX 1. PRODUCT CLASSIFICATION IN THE MODEL

abbreviation	Description	Code in CPA 2008	Products and services
PAGRI	Products of agriculture and fishing	CPA_A01	01 Products of agriculture, hunting and related services
		CPA_A03	03 Fish and other fishing products; aquaculture products; support services to fishing
PBMETAL	Basic metals	CPA_C24	24 Basic metals
PCHEM	Chemicals and chemical products	CPA_C20	20 Chemicals and chemical products
PCONSTR	Constructions and construction works	CPA_F	F Constructions and construction works
PEDUCATION	Education services	CPA_P	P Education services
PENERGY	Electricity, gas, steam and air-conditioning	CPA_D	D Electricity, gas, steam and air-conditioning
		CPA_C26	26 Computer, electronic and optical products
		CPA_C27	27 Electrical equipment
		CPA_C28	28 Machinery and equipment n.e.c.
		CPA_K64	64 Financial services, except insurance and pension funding
		CPA_K65	65 Insurance, reinsurance and pension funding services, except compulsory social security
		CPA_K66	66 Services auxiliary to financial services and insurance services
PFOOD	Food products	CPA_C10-12	10-12 Food products, beverages and tobacco products
PFOREST	Products of forestry	CPA_A02	02 Products of forestry, logging and related services
PMETAL	Metal products	CPA_C25	25 Fabricated metal products, except machinery and equipment
PMINERAL	Non-metallic mineral products	CPA_C23	23 Other non-metallic mineral products
PMINING	Mining and quarrying	CPA_B	B Mining and quarrying
POIL	Petroleum products	CPA_C19	19 Coke and refined petroleum products
		CPA_C13-15	13-15 Textiles, wearing apparel and leather products
		CPA_C17	17 Paper and paper products
		CPA_C18	18 Printing and recording services
		CPA_C21	21 Basic pharmaceutical products and pharmaceutical preparations
		CPA_C22	22 Rubber and plastics products
		CPA_C29	29 Motor vehicles, trailers and semi-trailers
		CPA_C30	30 Other transport equipment
		CPA_C31-32	31-32 Furniture; other manufactured goods
		CPA_C33	33 Repair and installation services of machinery and equipment
		CPA_M69-70	69-70 Legal and accounting services; services of head offices; management consulting services
		CPA_M71	71 Architectural and engineering services; technical testing and analysis services
		CPA_M72	72 Scientific research and development services
		CPA_M73	73 Advertising and market research services
		CPA_M74-75	74-75 Other professional, scientific and technical services; veterinary services
		CPA_E36	36 Natural water; water treatment and supply services
		CPA_37-39	37-39 Sewerage; waste collection, treatment and disposal activities; materials recovery; remediation activities and other waste management services
		CPA_H53	53 Postal and courier services
		CPA_I	I Accommodation and food services
		CPA_J58	58 Publishing services
		CPA_J59-60	59-60 Motion picture, video and television programme production services, sound recording and music publishing; programming and broadcasting services
		CPA_J61	61 Telecommunications services
		CPA_J62-63	62-63 Computer programming, consultancy and related services; information services
		CPA_L	L Real estate services excluding imputed rents
		CPA_N77	77 Rental and leasing services
		CPA_N78	78 Employment services
		CPA_N79	79 Travel agency, tour operator and other reservation services and related services
		CPA_N80-82	80-82 Security and investigation services; services to buildings and landscape; office administrative, office support and other business support services
		CPA_O	84 Public administration and defence services; compulsory social security services
		CPA_Q86	86 Human health services
		CPA_Q87-88	87-88 Social work services
		CPA_R90-92	90-92 Creative, arts and entertainment services; library, archive, museum and other cultural services; gambling and betting services
		CPA_R93	93 Sporting services and amusement and recreation services
		CPA_S94	94 Services furnished by membership organisations
		CPA_S95	95 Repair services of computers and personal and household goods
		CPA_S96	96 Other personal services
		CPA_T	T Services of households as employers; undifferentiated goods and services produced by households for own use
		CPA_U	U Services provided by extraterritorial organisations and bodies
		CPA_G45	45 Wholesale and retail trade and repair services of motor vehicles and motorcycles
		CPA_G46	46 Wholesale trade services, except of motor vehicles and motorcycles
		CPA_G47	47 Retail trade services, except of motor vehicles and motorcycles
		CPA_H49	49 Land transport services and transport services via pipelines
		CPA_H50	50 Water transport services
		CPA_H51	51 Air transport services
		CPA_H52	52 Warehousing and support services for transportation
		CPA_C16	16 Wood and of products of wood and cork, except furniture; articles of straw and plaiting materials
PWOOD	Wood and wood products		

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## APPENDIX 2. SOCIAL ACCOUNTING MATRIX FOR ESTONIA (2010)

SAM for EE											
	AAGRI	AFOREST	AMINING	AFOOD	AOTHIND	AWOOD	AOILCH	AMINERA	ABMETAL	AMETAL	AEQUIPM
AAGRI	0	0	0	0	0	0	0	0	0	0	0
AFOREST	0	0	0	0	0	0	0	0	0	0	0
AMINING	0	0	0	0	0	0	0	0	0	0	0
AFOOD	0	0	0	0	0	0	0	0	0	0	0
AOTHIND	0	0	0	0	0	0	0	0	0	0	0
AWOOD	0	0	0	0	0	0	0	0	0	0	0
AOILCH	0	0	0	0	0	0	0	0	0	0	0
AMINERA	0	0	0	0	0	0	0	0	0	0	0
ABMETAL	0	0	0	0	0	0	0	0	0	0	0
AMETAL	0	0	0	0	0	0	0	0	0	0	0
AEQUIPM	0	0	0	0	0	0	0	0	0	0	0
AENERGY	0	0	0	0	0	0	0	0	0	0	0
ASERVICE	0	0	0	0	0	0	0	0	0	0	0
ACONSTR	0	0	0	0	0	0	0	0	0	0	0
ATRADE	0	0	0	0	0	0	0	0	0	0	0
ATRANSP	0	0	0	0	0	0	0	0	0	0	0
AFINANCE	0	0	0	0	0	0	0	0	0	0	0
APROF	0	0	0	0	0	0	0	0	0	0	0
AEDUCAT	0	0	0	0	0	0	0	0	0	0	0
PAGRI	152.32	3.63	0.02	343.44	3.3	0.1	0.06	0.01	0	0	0.02
PFOREST	0.26	62.13	0.53	0.09	32.04	246.42	0.02	0.03	0	0.11	0.09
PMINING	6.98	0.55	9.35	0.3	0.15	0.01	63.05	17.94	0.05	0.12	0
PFOOD	77.78	0.11	0.1	240.36	6.34	0.04	13	0.04	0	0.01	0
POTHIND	25.51	11.99	17.11	80.81	504.53	34.93	15.37	22.09	0.28	14.9	40.82
PWOOD	0.45	1.63	1.73	2.51	87.83	306.89	0.69	6.35	0.03	1.68	3.08
POILCH	99.55	29.07	41.25	39.29	147.99	44.48	166.55	15.54	1.06	17.11	13.47
PMINERA	2.13	0.67	0.38	6.71	18.39	14.12	0.84	48.75	0.16	6.24	5.06
PBMETAL	0.47	0.53	0.68	0.52	55.34	1.53	5.57	3.83	17.5	301.41	83.34
PMETAL	6.52	7.09	7.42	22.43	70.08	18.63	10.75	13.64	0.3	156.66	92.34
PEQUIPM	18.26	11.43	16.26	10.07	77.02	15.04	5.65	6.78	0.47	12.19	798.28
PENERGY	20.72	1.72	19.92	32.38	65.19	26.79	23.52	16.94	1.4	14.2	11.69
PSERVICE	16.56	19.45	5.62	58.21	86.19	30.27	14.53	10.04	10.73	39.87	64.81
PCONSTR	7.35	3.03	1.2	1.31	5.37	2.12	0.9	2.29	0	5.15	0.84
PTRADE	1.26	3.66	1.53	8.18	18.27	12.27	1.12	1.29	0.04	1.78	4.7
PtranSP	12.04	61.85	23.35	58.16	82.91	63.23	19.38	24.06	0.36	21.06	20.75
PFINANCE	7.82	4.25	1.31	7.18	14.5	7.39	2.66	1.76	0.19	4.32	7.85
PPROF	11.94	9.83	3.06	45.17	78.09	16.39	10	7.08	0.48	8.62	36.29
PEDUCAT	0.26	0.09	0.2	1.1	0.98	0.32	0.22	0.24	0.05	0.34	1.04
LAB	109.01	49.94	82.96	167.49	425.42	154.63	51.95	56.97	6.08	151.73	185
CAP	310.62	97.74	84.66	101.18	240.07	131.49	114.39	38.7	2.97	70.69	121.44
TAXACT	-160.12	3.82	9.75	-0.5	-0.53	-0.18	1.68	0.49	0.01	-0.15	-1.21
MARGIN	0	0	0	0	0	0	0	0	0	0	0
TAXPROD	0	0	0	0	0	0	0	0	0	0	0
D4	0	0	0	0	0	0	0	0	0	0	0
D5	0	0	0	0	0	0	0	0	0	0	0
D61	0	0	0	0	0	0	0	0	0	0	0
D62	0	0	0	0	0	0	0	0	0	0	0
D7	0	0	0	0	0	0	0	0	0	0	0
D8	0	0	0	0	0	0	0	0	0	0	0
CORP	0	0	0	0	0	0	0	0	0	0	0
GOV	0	0	0	0	0	0	0	0	0	0	0
HOH	0	0	0	0	0	0	0	0	0	0	0
ROW	0	0	0	0	0	0	0	0	0	0	0
SI	0	0	0	0	0	0	0	0	0	0	0



	AENERGY	ASERVICE	ACONSTR	ATRADE	ATRANSP	AFINANCE	APROF	AEDUCAT	PAGRI	PFOREST	PMINING
AAGRI	0	0	0	0	0	0	0	0	669.29	8.13	0
AFOREST	0	0	0	0	0	0	0	0	0	359.35	0
AMINING	0	0	0	0	0	0	0	0	0	0	292.55
AFOOD	0	0	0	0	0	0	0	0	0	0	0
AOTHIND	0	0	0	0	0	0	0	0	0	0	0
AWOOD	0	0	0	0	0	0	0	0	0	28.13	0
AOILCH	0	0	0	0	0	0	0	0	0	0	1.58
AMINERA	0	0	0	0	0	0	0	0	0	0	3.53
ABMETAL	0	0	0	0	0	0	0	0	0	0	0
AMETAL	0	0	0	0	0	0	0	0	0	0	0
AEQUIPM	0	0	0	0	0	0	0	0	0	0	0
AENERGY	0	0	0	0	0	0	0	0	0	0	0.74
ASERVICE	0	0	0	0	0	0	0	0	0	0	0
ACONSTR	0	0	0	0	0	0	0	0	0	0.45	6.97
ATRADE	0	0	0	0	0	0	0	0	0	0	0
ATRANSP	0	0	0	0	0	0	0	0	0	0	0
AFINANCE	0	0	0	0	0	0	0	0	0	0	0
APROF	0	0	0	0	0	0	0	0	0	0	0
AEDUCAT	0	0	0	0	0	0	0	0	0	0	0
PAGRI	0.02	29.17	0.44	0.92	0.34	0.12	3.21	2.32	0	0	0
PFOREST	0.24	1.85	0.39	1.92	0.44	0.14	0.46	0.1	0	0	0
PMINING	319.91	8.25	54.4	0.49	1.41	0.01	0.56	0.26	0	0	0
PFOOD	0.14	148.61	0.41	6.63	0.77	0.35	4.89	20.46	0	0	0
POTHIND	15.37	361.16	90.09	155.92	102.18	16.3	45.06	22.31	0	0	0
PWOOD	43.69	15.12	126.33	11.2	8.47	0.41	2.5	0.23	0	0	0
POILCH	33.73	122.03	99.43	50.94	393.32	3.08	18.57	14.28	0	0	0
PMINERA	0.07	19.83	210.89	16.08	3.43	0.16	2.02	0.44	0	0	0
PBMETAL	0.48	15.33	26.75	0.2	3.09	1.55	2.24	0.07	0	0	0
PMETAL	11.25	47.92	138.94	20.98	18.61	0.92	5.59	1.44	0	0	0
PEQUIPM	30.88	83.82	58.89	63.48	19.8	5.38	16.13	4.94	0	0	0
PENERGY	197.99	161.35	13.33	64.44	48.08	4.41	8.83	42.37	0	0	0
PSERVICE	46.52	1396.2	92.93	475.74	374.53	108.39	195.61	93	0	0	0
PCONSTR	4.28	210.61	101.55	13.5	14.48	2.65	5.99	7.18	0	0	0
PTRADE	6.3	23.37	9.64	68.79	88.52	2.8	1.55	0.95	0	0	0
PTRANSP	7.94	140.24	57.87	256.55	1105.24	4.77	13.36	9.7	0	0	0
PFINANCE	15.59	164.12	24.04	69.88	33.27	167.66	20.89	3.36	0	0	0
PPROF	26.4	264.98	154.81	165.68	53.13	46.98	161.67	8.18	0	0	0
PEDUCAT	1.12	21.85	1.01	3.12	3.19	5.53	3.7	14.15	0	0	0
LAB	109	2346.74	536.24	894.91	473.03	217.07	379.96	560.78	0	0	0
CAP	373.41	2146.66	223.95	620.65	638.81	306.92	317.2	83.69	0	0	0
TAXACT	19.05	26.62	2.46	0.35	1.9	0.28	-15.66	-0.3	0	0	0
MARGIN	0	0	0	0	0	0	0	0	132.59	65.04	38.16
TAXPROD	0	0	0	0	0	0	0	0	34.1	1.19	1.22
D4	0	0	0	0	0	0	0	0	0	0	0
D5	0	0	0	0	0	0	0	0	0	0	0
D61	0	0	0	0	0	0	0	0	0	0	0
D62	0	0	0	0	0	0	0	0	0	0	0
D7	0	0	0	0	0	0	0	0	0	0	0
D8	0	0	0	0	0	0	0	0	0	0	0
CORP	0	0	0	0	0	0	0	0	0	0	0
GOV	0	0	0	0	0	0	0	0	0	0	0
HOH	0	0	0	0	0	0	0	0	0	0	0
ROW	0	0	0	0	0	0	0	0	161.05	23.78	195.71
SI	0	0	0	0	0	0	0	0	0	0	0

	PFOOD	POTHIND	PWOOD	POILCH	PMINERA	PBMETAL	PMETAL	PEQUIPM	PENERGY	PSERVICE	PCONSTR
AAGRI	38.58	0.66	0.94	0	0	0	0	0.01	0	4.52	0.59
AFOREST	0	0.64	13.04	0	0	0	0	0.01	0	5.38	1.06
AMINING	0.21	0.79	0.16	6.33	1.68	0	0.22	2.15	1.56	1.75	6.81
AFOOD	1159.01	0.07	0	0.97	0	0	0	0	0.14	9.57	0.45
AOTHIND	0	1906.46	14.98	1.82	0	0.12	22.39	14.62	0.13	15.5	2.85
AWOOD	0	5.22	1063.2	0	0	0	0.04	0.09	0.12	3.69	3.69
AOILCH	0	0	0	485.63	0	18.85	0	0.01	1.35	2.12	0.04
AMINERA	0	0.49	0	0	254.56	0	1.65	0	1.04	6.26	4.12
ABMETAL	0	0	0	0	0	40.51	0.52	0.62	0	0.12	0
AMETAL	0	9.92	0	0	0	1.49	706.4	50.7	0.01	6.03	10.61
AEQUIPM	0	22.61	0.03	0	0	5.25	19.81	1399.76	0.12	7.65	1.12
AENERGY	0	3.6	0	1.71	0	0	0.06	0.08	1199.22	34.49	5.41
ASERVICE	0	2.37	0	0	0	0	0	1.38	2.16	7614.32	8.03
ACONSTR	0	1.69	0.54	2.53	6.32	0	6.98	0.07	1.05	31.3	1929.61
ATRADE	2.48	31.73	6.94	0.98	1.77	2.43	10.85	0	0	88.3	8.63
ATRANSP	0	1.58	0.32	0	0	0	0	0.42	0.9	65.44	4.98
AFINANCE	0	2.61	0	0	0	0	0	0	0	16.9	0
APROF	0	0	0	0	0	0	0	0.73	0	52.54	0.85
AEDUCAT	0	0	0	0	0	0	0	0	0	27.51	0
PAGRI	0	0	0	0	0	0	0	0	0	0	0
PFOREST	0	0	0	0	0	0	0	0	0	0	0
PMINING	0	0	0	0	0	0	0	0	0	0	0
PFOOD	0	0	0	0	0	0	0	0	0	0	0
POTHIND	0	0	0	0	0	0	0	0	0	0	0
PWOOD	0	0	0	0	0	0	0	0	0	0	0
POILCH	0	0	0	0	0	0	0	0	0	0	0
PMINERA	0	0	0	0	0	0	0	0	0	0	0
PBMETAL	0	0	0	0	0	0	0	0	0	0	0
PMETAL	0	0	0	0	0	0	0	0	0	0	0
PEQUIPM	0	0	0	0	0	0	0	0	0	0	0
PENERGY	0	0	0	0	0	0	0	0	0	0	0
PSERVICE	0	0	0	0	0	0	0	0	0	0	0
PCONSTR	0	0	0	0	0	0	0	0	0	0	0
PTRADE	0	0	0	0	0	0	0	0	0	0	0
PTRANSP	0	0	0	0	0	0	0	0	0	0	0
PFINANCE	0	0	0	0	0	0	0	0	0	0	0
PPROF	0	0	0	0	0	0	0	0	0	0	0
PEDUCAT	0	0	0	0	0	0	0	0	0	0	0
LAB	0	0	0	0	0	0	0	0	0	0	0
CAP	0	0	0	0	0	0	0	0	0	0	0
TAXACT	0	0	0	0	0	0	0	0	0	0	0
MARGIN	589.78	857.34	146.72	485.52	120.2	53.63	120.49	291.26	0	90.9	0
TAXPROD	561.5	225.95	6.08	422.33	9.29	1.64	18.17	59.47	128.74	273.83	111.36
D4	0	0	0	0	0	0	0	0	0	0	0
D5	0	0	0	0	0	0	0	0	0	0	0
D61	0	0	0	0	0	0	0	0	0	0	0
D62	0	0	0	0	0	0	0	0	0	0	0
D7	0	0	0	0	0	0	0	0	0	0	0
D8	0	0	0	0	0	0	0	0	0	0	0
CORP	0	0	0	0	0	0	0	0	0	0	0
GOV	0	0	0	0	0	0	0	0	0	0	0
HOH	0	0	0	0	0	0	0	0	0	0	0
ROW	817.9	2175.32	223.07	1298.73	155.38	571.6	377.23	2134.79	54.67	583.94	68.11
SI	0	0	0	0	0	0	0	0	0	0	0

	PTRADE	PTRANS	PFINANCE	PPROF	PEDUCAT	LAB	CAP	TAXACT	MARGIN	TAXPROD
AAGRI	2.71	2.19	0	0.07	0	0	0	0	0	0
AFOREST	3.81	0.92	0	0	0	0	0	0	0	0
AMINING	2.40	11.09	0	0.69	0	0	0	0	0	0
AFOOD	44.40	4.08	0	7.7	0	0	0	0	0	0
AOTHIND	31.02	3.47	0	6.11	0	0	0	0	0	0
AWOOD	11.22	7.81	0	3.7	0	0	0	0	0	0
AOILCH	8.96	0.16	0	3.2	0	0	0	0	0	0
AMINERA	11.29	11.15	0	0.77	0	0	0	0	0	0
ABMETAL	0.39	0	0	0	0	0	0	0	0	0
AMETAL	39.21	0.97	0	2.7	0	0	0	0	0	0
AEQUIPM	23.17	4.69	0	5.49	0	0	0	0	0	0
AENERGY	6.55	0.19	0	11.33	0	0	0	0	0	0
ASERVICE	41.07	27.97	3.59	42.52	12.42	0	0	0	0	0
ACONSTR	16.58	9.02	0	11.68	0	0	0	0	0	0
ATRADE	2721.52	42.96	0.42	42.58	0.78	0	0	0	0	0
ATRANSP	48.76	3252.98	0.1	10.43	0.13	0	0	0	0	0
AFINANCE	0.65	0	867.36	8.36	0	0	0	0	0	0
APROF	9.97	2.51	0	1127.35	0.38	0	0	0	0	0
AEDUCAT	0.36	0.49	0	6.29	855.26	0	0	0	0	0
PAGRI	0.00	0	0	0	0	0	0	0	0	0
PFOREST	0.00	0	0	0	0	0	0	0	0	0
PMINING	0.00	0	0	0	0	0	0	0	0	0
PFOOD	0.00	0	0	0	0	0	0	0	0	0
POTHIND	0.00	0	0	0	0	0	0	0	0	0
PWOOD	0.00	0	0	0	0	0	0	0	0	0
POILCH	0.00	0	0	0	0	0	0	0	0	0
PMINERA	0.00	0	0	0	0	0	0	0	0	0
PBMETAL	0.00	0	0	0	0	0	0	0	0	0
PMETAL	0.00	0	0	0	0	0	0	0	0	0
PEQUIPM	0.00	0	0	0	0	0	0	0	0	0
PENERGY	0.00	0	0	0	0	0	0	0	0	0
PSERVICE	0.00	0	0	0	0	0	0	0	0	0
PCONSTR	0.00	0	0	0	0	0	0	0	0	0
PTRADE	0.00	0	0	0	0	0	0	0	0	0
PTRANSP	0.00	0	0	0	0	0	0	0	0	0
PFINANCE	0.00	0	0	0	0	0	0	0	0	0
PPROF	0.00	0	0	0	0	0	0	0	0	0
PEDUCAT	0.00	0	0	0	0	0	0	0	0	0
LAB	0.00	0	0	0	0	0	0	0	0	0
CAP	0.00	0	0	0	0	0	0	0	0	0
TAXACT	0.00	0	0	0	0	0	0	0	0	0
MARGIN	-2703.69	-288.23	0	0.29	0	0	0	0	0	0
TAXPROD	11.89	-61.58	5.8	20.47	5.89	0	0	0	0	0
D4	0.00	0	0	0	0	0	0	0	0	0
D5	0.00	0	0	0	0	0	0	0	0	0
D61	0.00	0	0	0	0	0	0	0	0	0
D62	0.00	0	0	0	0	0	0	0	0	0
D7	0.00	0	0	0	0	0	0	0	0	0
D8	0.00	0	0	0	0	0	0	0	0	0
CORP	0.00	0	0	0	0	0	4378.24	0	0	0
GOV	0.00	0	0	0	0	0	417	109	0	1906.34
HOH	0.00	0	0	0	0	7089.91	1230	0	0	0
ROW	2.01	459.73	85.73	336.94	13.94	69	0	0	0	24
SI	0.00	0	0	0	0	0	0	0	0	0

	D4	D5	D61	D62	D7	D8	CORP	GOV	HOH	ROW	SI
AAGRI	0	0	0	0	0	0	0	0	0	0	0
AFOREST	0	0	0	0	0	0	0	0	0	0	0
AMINING	0	0	0	0	0	0	0	0	0	0	0
AFOOD	0	0	0	0	0	0	0	0	0	0	0
AOTHIND	0	0	0	0	0	0	0	0	0	0	0
AWOOD	0	0	0	0	0	0	0	0	0	0	0
AOILCH	0	0	0	0	0	0	0	0	0	0	0
AMINERA	0	0	0	0	0	0	0	0	0	0	0
ABMETAL	0	0	0	0	0	0	0	0	0	0	0
AMETAL	0	0	0	0	0	0	0	0	0	0	0
AEQUIPM	0	0	0	0	0	0	0	0	0	0	0
AENERGY	0	0	0	0	0	0	0	0	0	0	0
ASERVICE	0	0	0	0	0	0	0	0	0	0	0
ACONSTR	0	0	0	0	0	0	0	0	0	0	0
ATRADE	0	0	0	0	0	0	0	0	0	0	0
ATRANSP	0	0	0	0	0	0	0	0	0	0	0
AFINANCE	0	0	0	0	0	0	0	0	0	0	0
APROF	0	0	0	0	0	0	0	0	0	0	0
AEDUCAT	0	0	0	0	0	0	0	0	0	0	0
PAGRI	0	0	0	0	0	0	0	0	262.09	160.38	35.12
PFOREST	0	0	0	0	0	0	0	0	11.73	122.88	4.2
PMINING	0	0	0	0	0	0	0	0	3.44	62.11	-8.88
PFOOD	0	0	0	0	0	0	0	1.45	2017.59	687.71	-57.33
POTHIND	0	0	0	0	0	0	0	99.5	1121.65	2109.95	341.22
PWOOD	0	0	0	0	0	0	0	0	15.05	821.97	18.18
POILCH	0	0	0	0	0	0	0	2.37	544.59	729.28	79.57
PMINERA	0	0	0	0	0	0	0	0	34.05	174.47	-15.69
PBMETAL	0	0	0	0	0	0	0	0	0	172.67	2.42
PMETAL	0	0	0	0	0	0	0	0	24.65	489.15	119.5
PEQUIPM	0	0	0	0	0	0	0	0	216.34	1873.45	611.61
PENERGY	0	0	0	0	0	0	0	6.17	377.39	232.38	0
PSERVICE	0	0	0	0	0	0	0	2076.58	2734.15	788.1	204.03
PCONSTR	0	0	0	0	0	0	0	0	3.35	158.29	1616.88
PTRADE	0	0	0	0	0	0	0	0	72.71	5.52	0
PTRANSP	0	0	0	0	0	0	0	1.07	208.23	1300.45	0
PFINANCE	0	0	0	0	0	0	0	0	298.64	106.32	0
PPROF	0	0	0	0	0	0	0	59.08	28.51	272.9	179.4
PEDUCAT	0	0	0	0	0	0	0	710.12	118.5	1.67	0
LAB	0	0	0	0	0	0	0	0	0	200	0
CAP	0	0	0	0	0	0	0	0	0	0	0
TAXACT	0	0	0	0	0	0	0	64	0	157.24	0
MARGIN	0	0	0	0	0	0	0	0	0	0	0
TAXPROD	0	0	0	0	0	0	0	92	0	1	0
D4	0	0	0	0	0	0	2518.01	19	166	490	0
D5	0	0	0	0	0	0	190	3	800	27	0
D61	0	0	0	0	0	0	0	0	1972	1	0
D62	0	0	0	0	0	0	52	1875	13	36	0
D7	0	0	0	0	0	0	691	269	247	325	0
D8	0	0	0	0	0	0	34	0	0	0	0
CORP	809	0	63	0	318	0	0	0	0	0	0
GOV	225	969	1910	0	205	0	0	0	0	0	0
HOH	623	0	0	1975	774	34	0	0	0	810.67	0
ROW	1536.01	51	0	1	235	0	0	0	405.92	0	0
SI	0	0	0	0	0	0	2083.23	463	840	-256	0

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## APPENDIX 3. SOCIAL ACCOUNTING MATRIX FOR LATVIA (2010)

SAM for LV											
	AAGRI	AFOREST	AMINING	AFOOD	AOTHIND	AWOOD	AOILCH	AMINERA	ABMETAL	AMETAL	AEQUIPM
AAGRI	0	0	0	0	0	0	0	0	0	0	0
AFOREST	0	0	0	0	0	0	0	0	0	0	0
AMINING	0	0	0	0	0	0	0	0	0	0	0
AFOOD	0	0	0	0	0	0	0	0	0	0	0
AOTHIND	0	0	0	0	0	0	0	0	0	0	0
AWOOD	0	0	0	0	0	0	0	0	0	0	0
AOILCH	0	0	0	0	0	0	0	0	0	0	0
AMINERA	0	0	0	0	0	0	0	0	0	0	0
ABMETAL	0	0	0	0	0	0	0	0	0	0	0
AMETAL	0	0	0	0	0	0	0	0	0	0	0
AEQUIPM	0	0	0	0	0	0	0	0	0	0	0
AENERGY	0	0	0	0	0	0	0	0	0	0	0
ASERVICE	0	0	0	0	0	0	0	0	0	0	0
ACONSTR	0	0	0	0	0	0	0	0	0	0	0
ATRADE	0	0	0	0	0	0	0	0	0	0	0
ATRANSP	0	0	0	0	0	0	0	0	0	0	0
AFINANCE	0	0	0	0	0	0	0	0	0	0	0
APROF	0	0	0	0	0	0	0	0	0	0	0
AEDUCAT	0	0	0	0	0	0	0	0	0	0	0
PAGRI	292.75	0	0	309.3	1.34	3.6	75.48	0	0	0	0
PFOREST	13.3	242.7	0	0.55	3.94	408.48	0	0	0.03	0.02	0.82
PMINING	0.4	1.66	21.75	0.21	3.04	0.01	3.74	44.98	12.33	0.4	0
PFOOD	3.95	0	0	472.72	0.32	0.16	4.57	0	0	0.01	0.01
POTHIND	67.5	6.37	8.89	103.39	406.91	37.78	6.46	9.39	9.71	17.56	5.14
PWOOD	1.05	64.63	3.28	2.25	48.49	354.08	0.84	4.92	0.04	1.15	0.54
POILCH	203.13	62.14	20.2	27.99	123.45	75.61	55.06	35.72	2.1	8.92	5.28
PMINERA	0.35	0.01	0.51	23.77	17.1	1.58	4.39	35.63	9.53	1.95	3.59
PBMETAL	0.13	0.1	0.16	11.34	48.99	1.46	0.11	3.29	104.03	169.6	30.22
PMETAL	0.9	0.02	0.29	30.27	37.79	5.79	0.29	1.96	4.95	6.56	11.46
PEQUIPM	16.49	3.05	2.03	4.5	42.71	9.2	1.28	2.4	2.18	3.4	107.66
PENERGY	37.77	2.19	3.15	58.2	56.46	52.38	9.98	38.97	6.35	8.51	7.11
PSERVICE	13.36	23.4	3.87	54.05	70.54	13.45	5.61	20.19	201.19	17.23	12.9
PCONSTR	0.71	0.53	0.13	5.22	7.08	1.04	0.36	1.03	0.41	10.36	0.68
PTRADE	1.87	3.62	1.72	8.39	15.17	12.44	0.79	4.21	1.07	1.16	3.6
PTRANSP	27.32	46.24	29.07	75.76	52.94	81.06	15.77	22.75	20.69	17.3	10.39
PFINANCE	16.36	9.61	0.89	6.74	11.09	9.39	1.4	4	0.51	3.06	1.92
PPROF	6.49	15.5	3.74	52.51	46.68	8.56	3.14	8.31	0.84	7.13	2.42
PEDUCAT	0.05	0.3	0.09	0.64	0.69	0.35	0.13	0.14	0.05	0.51	0.1
LAB	125.2	93.74	29.87	220.71	313.95	167.45	25.81	53.55	38.01	63.81	72.69
CAP	466.14	262.17	46.48	290.87	285.19	283.99	76.54	60.8	44.51	62.02	47.2
TAXACT	-248.01	5.65	1.77	2.59	3.88	4.16	0.52	2.22	0.6	0.42	0.88
MARGIN	0	0	0	0	0	0	0	0	0	0	0
TAXPROD	0	0	0	0	0	0	0	0	0	0	0
D4	0	0	0	0	0	0	0	0	0	0	0
D5	0	0	0	0	0	0	0	0	0	0	0
D61	0	0	0	0	0	0	0	0	0	0	0
D62	0	0	0	0	0	0	0	0	0	0	0
D7	0	0	0	0	0	0	0	0	0	0	0
D8	0	0	0	0	0	0	0	0	0	0	0
CORP	0	0	0	0	0	0	0	0	0	0	0
GOV	0	0	0	0	0	0	0	0	0	0	0
HOH	0	0	0	0	0	0	0	0	0	0	0
ROW	0	0	0	0	0	0	0	0	0	0	0
SI	0	0	0	0	0	0	0	0	0	0	0

	AENERGY	ASERVICE	ACONSTR	ATRADE	ATRANSP	AFINANC	APROF	AEDUCAT	PAGRI	PFOREST	PMINING
AAGRI	0	0	0	0	0	0	0	0	998.36	0	0
AFOREST	0	0	0	0	0	0	0	0	0	810.56	0.24
AMINING	0	0	0	0	0	0	0	0	0	0	175.57
AFOOD	0	0	0	0	0	0	0	0	3.67	0	0
AOTHIND	0	0	0	0	0	0	0	0	0	1.16	0
AWOOD	0	0	0	0	0	0	0	0	0	57.06	0
AOILCH	0	0	0	0	0	0	0	0	0	0	0
AMINERA	0	0	0	0	0	0	0	0	0	0	0.38
ABMETAL	0	0	0	0	0	0	0	0	0	0	0
AMETAL	0	0	0	0	0	0	0	0	0	0	0
AEQUIPM	0	0	0	0	0	0	0	0	0	0	0
AENERGY	0	0	0	0	0	0	0	0	0	0	0
ASERVICE	0	0	0	0	0	0	0	0	0.97	0	1.19
ACONSTR	0	0	0	0	0	0	0	0	0	0	9.49
ATRADE	0	0	0	0	0	0	0	0	2.75	1.87	0
ATRANSP	0	0	0	0	0	0	0	0	0	6.64	0
AFINANC	0	0	0	0	0	0	0	0	0	0	0
APROF	0	0	0	0	0	0	0	0	0	0	0
AEDUCAT	0	0	0	0	0	0	0	0	0.08	0	0
PAGRI	0	7.84	0.09	4.55	0.08	0.1	0.03	0.22	0	0	0
PFOREST	0.54	13.15	0.23	0.05	0.08	0	0.46	4.41	0	0	0
PMINING	434.31	18.73	73.03	0.02	5.5	0	0.1	1.55	0	0	0
PFOOD	0.02	190.36	0.3	20.62	5.99	0.4	1.79	18.93	0	0	0
POTHIND	32.91	354.61	123.47	141.48	165.1	7.9	58.4	12.26	0	0	0
PWOOD	15.13	22.36	192.79	10.1	3.68	0	0.07	0.94	0	0	0
POILCH	30.68	188.4	82.6	66.2	514.48	4.34	43.27	16.26	0	0	0
PMINERA	16.43	32.68	230.58	5.16	4.89	0	1.01	2.02	0	0	0
PBMETAL	0.29	16.9	53.76	1.44	1.84	0	1.12	0.05	0	0	0
PMETAL	11.85	52.76	235.86	33.19	13.23	0	5.31	8.8	0	0	0
PEQUIPM	19.3	101.18	52.35	42.8	11.21	3.05	16.96	5.26	0	0	0
PENERGY	882.59	275.24	16.54	123.99	55.73	8.57	14.6	50	0	0	0
PSERVICE	152.86	1629.69	171.18	578.85	352.22	158.46	301.1	71.59	0	0	0
PCONSTR	84.92	368.77	1220.99	57.06	13	1.4	73.82	16.48	0	0	0
PTRADE	2.29	72.77	27.18	138.9	67.85	10.87	43.78	1.03	0	0	0
PTRANSP	5.99	111.91	119.75	427.19	2047.65	2.42	31.61	4.91	0	0	0
PFINANC	20.43	165.59	29.98	77.55	48.52	286.97	12.55	0.8	0	0	0
PPROF	20.78	350.21	181.81	414.58	65.71	48.76	210.4	9.13	0	0	0
PEDUCAT	0.61	11.97	3.5	8.74	4.12	2.01	5.62	9.84	0	0	0
LAB	164.09	2396.49	563.47	1144.81	746.66	350.58	321.88	673.55	0	0	0
CAP	437.98	3122.56	168.15	1267.2	900.19	175.95	387.86	167.12	0	0	0
TAXACT	21.24	83.44	5.99	7.3	-104.54	10.22	1.27	0.81	0	0	0
MARGIN	0	0	0	0	0	0	0	0	249.11	134.6	68.42
TAXPROD	0	0	0	0	0	0	0	0	93.3	11.91	4.01
D4	0	0	0	0	0	0	0	0	0	0	0
D5	0	0	0	0	0	0	0	0	0	0	0
D61	0	0	0	0	0	0	0	0	0	0	0
D62	0	0	0	0	0	0	0	0	0	0	0
D7	0	0	0	0	0	0	0	0	0	0	0
D8	0	0	0	0	0	0	0	0	0	0	0
CORP	0	0	0	0	0	0	0	0	0	0	0
GOV	0	0	0	0	0	0	0	0	0	0	0
HOH	0	0	0	0	0	0	0	0	0	0	0
ROW	0	0	0	0	0	0	0	0	348.85	21.63	387.44
SI	0	0	0	0	0	0	0	0	0	0	0

	PFOOD	POTHIND	PWOOD	POILCH	PMINERA	PBMETAL	PMETAL	PEQUIPM	PENERGY	PSERVICE	PCONSTR
AAGRI	27.86	1.41	0.68	0	0.03	0	0	0.17	4.08	9.99	0.77
AFOREST	0	0	20.49	0	0	0	0	0	0	3.58	0.03
AMINING	0	0.08	0	0	0	0	0	0.09	0	0.34	0.9
AFOOD	1700.43	0.43	0	3.5	0	0	3.67	0.69	3.14	8.43	1.28
AOTHIND	0	1475.06	1.25	0	0.03	1.63	5.36	1.18	5.84	60	0.12
AWOOD	0	4.19	1368.58	1.95	0.02	0	0.05	0.7	0.56	78.66	7.09
AOILCH	10.7	0	0	274.14	0	0	0	0	0	0.38	0.06
AMINERA	0	32.56	0	0	304.27	1.45	0.16	0.01	3.86	6.9	0.81
ABMETAL	0	0.89	0.01	0	0.01	414.29	0	0.02	0	36.16	0.45
AMETAL	0	5.09	0.14	0	0.02	0	382.54	1.51	0.35	5.13	3.38
AEQUIPM	0	2.02	0.67	0	0	0	6.11	309.93	0	2.75	0
AENERGY	0	0.13	2.43	0	0	0	0.08	0.3	2133.46	138.36	49.84
ASERVICE	8.59	3.79	0.13	0	0.04	0	0.02	3.6	24.31	9459.09	11.53
ACONSTR	0	5.25	2.11	0	22.97	0	0.21	0.84	1.68	55.78	3445.01
ATRADE	51.72	87.29	4.47	8.37	6.67	38.17	16.85	23.26	2.15	183.94	9.26
ATRANSP	0.4	1.9	0.66	0	0.19	0	0	0.1	1.89	84.75	5.21
AFINANC	0	0	0	0	0	0	0	0.02	0	9.95	0
APROF	0	0.55	0	0	0	0	0	0.04	0	14.76	1.17
AEDUCAT	0	0.01	0	0	0	0	0	0.01	0.62	6.04	1.76
PAGRI	0	0	0	0	0	0	0	0	0	0	0
PFOREST	0	0	0	0	0	0	0	0	0	0	0
PMINING	0	0	0	0	0	0	0	0	0	0	0
PFOOD	0	0	0	0	0	0	0	0	0	0	0
POTHIND	0	0	0	0	0	0	0	0	0	0	0
PWOOD	0	0	0	0	0	0	0	0	0	0	0
POILCH	0	0	0	0	0	0	0	0	0	0	0
PMINERA	0	0	0	0	0	0	0	0	0	0	0
PBMETAL	0	0	0	0	0	0	0	0	0	0	0
PMETAL	0	0	0	0	0	0	0	0	0	0	0
PEQUIPM	0	0	0	0	0	0	0	0	0	0	0
PENERGY	0	0	0	0	0	0	0	0	0	0	0
PSERVICE	0	0	0	0	0	0	0	0	0	0	0
PCONSTR	0	0	0	0	0	0	0	0	0	0	0
PTRADE	0	0	0	0	0	0	0	0	0	0	0
PTRANSP	0	0	0	0	0	0	0	0	0	0	0
PFINANC	0	0	0	0	0	0	0	0	0	0	0
PPROF	0	0	0	0	0	0	0	0	0	0	0
PEDUCAT	0	0	0	0	0	0	0	0	0	0	0
LAB	0	0	0	0	0	0	0	0	0	0	0
CAP	0	0	0	0	0	0	0	0	0	0	0
TAXACT	0	0	0	0	0	0	0	0	0	0	0
MARGIN	762.35	1004.69	245.64	587.57	135.09	86.99	110.91	388	4.75	170.56	0
TAXPROD	667.82	278.07	10.76	499.9	11.5	3.84	9.14	79.62	61.38	412.45	174.86
D4	0	0	0	0	0	0	0	0	0	0	0
D5	0	0	0	0	0	0	0	0	0	0	0
D61	0	0	0	0	0	0	0	0	0	0	0
D62	0	0	0	0	0	0	0	0	0	0	0
D7	0	0	0	0	0	0	0	0	0	0	0
D8	0	0	0	0	0	0	0	0	0	0	0
CORP	0	0	0	0	0	0	0	0	0	0	0
GOV	0	0	0	0	0	0	0	0	0	0	0
HOH	0	0	0	0	0	0	0	0	0	0	0
ROW	1083.04	2171.73	112.02	1607.68	153.07	467.25	245.18	1460.14	99.21	530.14	50.34
SI	0	0	0	0	0	0	0	0	0	0	0



	PTRADE	PTRANSP	PFINANCE	PPROF	PEDUCAT	LAB	CAP	TAXACT	MARGIN	TAXPROD
AAGRI	3.72	0.02	0	0.12	0	0	0	0	0	0
AFOREST	3.46	3.49	0	1.78	0	0	0	0	0	0
AMINING	0.91	0	0	0	0	0	0	0	0	0
AFOOD	30.19	6.3	0	0.24	0	0	0	0	0	0
AOTHIND	36.51	1.92	0	7.69	0	0	0	0	0	0
AWOOD	8.68	3.48	0	1	0	0	0	0	0	0
AOILCH	6.35	0	0	0.64	0	0	0	0	0	0
AMINERA	3.01	0	0	1.05	0	0	0	0	0	0
ABMETAL	7.30	0	0	0	0	0	0	0	0	0
AMETAL	2.65	0.16	0	0.11	0	0	0	0	0	0
AEQUIPM	1.40	0	0	1.73	0	0	0	0	0	0
AENERGY	0.00	21.36	0	9.08	0.2	0	0	0	0	0
ASERVICE	29.87	1.7	1.22	37.37	4.19	0	0	0	0	0
ACONSTR	6.58	1.21	0	2.29	0.18	0	0	0	0	0
ATRADE	3938.93	66.69	0	127.89	1.5	0	0	0	0	0
ATRANSP	11.29	4810.12	0	0.04	0	0	0	0	0	0
AFINANCE	0.00	0	1061.36	0.67	0	0	0	0	0	0
APROF	2.06	10.09	0	1504.34	0	0	0	0	0	0
AEDUCAT	0.13	0	0	38.01	1029.3	0	0	0	0	0
PAGRI	0.00	0	0	0	0	0	0	0	0	0
PFOREST	0.00	0	0	0	0	0	0	0	0	0
PMINING	0.00	0	0	0	0	0	0	0	0	0
PFOOD	0.00	0	0	0	0	0	0	0	0	0
POTHIND	0.00	0	0	0	0	0	0	0	0	0
PWOOD	0.00	0	0	0	0	0	0	0	0	0
POILCH	0.00	0	0	0	0	0	0	0	0	0
PMINERA	0.00	0	0	0	0	0	0	0	0	0
PBMETAL	0.00	0	0	0	0	0	0	0	0	0
PMETAL	0.00	0	0	0	0	0	0	0	0	0
PEQUIPM	0.00	0	0	0	0	0	0	0	0	0
PENERGY	0.00	0	0	0	0	0	0	0	0	0
PSERVICES	0.00	0	0	0	0	0	0	0	0	0
PCONSTR	0.00	0	0	0	0	0	0	0	0	0
PTRADE	0.00	0	0	0	0	0	0	0	0	0
PTRANSP	0.00	0	0	0	0	0	0	0	0	0
PFINANCE	0.00	0	0	0	0	0	0	0	0	0
PPROF	0.00	0	0	0	0	0	0	0	0	0
PEDUCAT	0.00	0	0	0	0	0	0	0	0	0
LAB	0.00	0	0	0	0	0	0	0	0	0
CAP	0.00	0	0	0	0	0	0	0	0	0
TAXACT	0.00	0	0	0	0	0	0	0	0	0
MARGIN	-3610.27	-338.42	0	0.01	0	0	0	0	0	0
TAXPROD	15.45	34.1	0	42.36	6.16	0	0	0	0	0
D4	0.00	0	0	0	0	0	0	0	0	0
D5	0.00	0	0	0	0	0	0	0	0	0
D61	0.00	0	0	0	0	0	0	0	0	0
D62	0.00	0	0	0	0	0	0	0	0	0
D7	0.00	0	0	0	0	0	0	0	0	0
D8	0.00	0	0	0	0	0	0	0	0	0
CORP	0.00	0	0	0	0	0	5533.92	0	0	0
GOV	0.00	0	0	0	0	0	746	193	0	2432.63
HOH	0.00	0	0	0	0	7993.32	2273	0	0	0
ROW	46.10	362.87	102.94	182.32	3.06	32	0	0	0	25
SI	0.00	0	0	0	0	0	0	0	0	0

	D4	D5	D61	D62	D7	D8	CORP	GOV	HOH	ROW	SI
AAGRI	0	0	0	0	0	0	0	0	0	0	0
AFOREST	0	0	0	0	0	0	0	0	0	0	0
AMINING	0	0	0	0	0	0	0	0	0	0	0
AFOOD	0	0	0	0	0	0	0	0	0	0	0
AOTHIND	0	0	0	0	0	0	0	0	0	0	0
AWOOD	0	0	0	0	0	0	0	0	0	0	0
AOILCH	0	0	0	0	0	0	0	0	0	0	0
AMINERA	0	0	0	0	0	0	0	0	0	0	0
ABMETAL	0	0	0	0	0	0	0	0	0	0	0
AMETAL	0	0	0	0	0	0	0	0	0	0	0
AEQUIPM	0	0	0	0	0	0	0	0	0	0	0
AENERGY	0	0	0	0	0	0	0	0	0	0	0
ASERVICE	0	0	0	0	0	0	0	0	0	0	0
ACONSTR	0	0	0	0	0	0	0	0	0	0	0
ATRADE	0	0	0	0	0	0	0	0	0	0	0
ATRANSP	0	0	0	0	0	0	0	0	0	0	0
AFINANCE	0	0	0	0	0	0	0	0	0	0	0
APROF	0	0	0	0	0	0	0	0	0	0	0
AEDUCAT	0	0	0	0	0	0	0	0	0	0	0
PAGRI	0	0	0	0	0	0	0	0.94	553.9	430.29	16.58
PFOREST	0	0	0	0	0	0	0	15.88	100.01	255.11	-14.33
PMINING	0	0	0	0	0	0	0	0	8.17	99.58	-82.77
PFOOD	0	0	0	0	0	0	0	4.67	2856.89	789.36	-58.16
POTHIND	0	0	0	0	0	0	0	104.25	1264.94	1531.04	599.68
PWOOD	0	0	0	0	0	0	0	0	89.23	942.02	12.45
POILCH	0	0	0	0	0	0	0	0	815.45	526.77	75.06
PMINERA	0	0	0	0	0	0	0	0	61.01	137.52	44.2
PBMETAL	0	0	0	0	0	0	0	0	1.1	550.78	16.91
PMETAL	0	0	0	0	0	0	0	0	36.16	212.96	69.88
PEQUIPM	0	0	0	0	0	0	0	0	261.51	902.78	658.93
PENERGY	0	0	0	0	0	0	0	2.92	575.69	60.08	0.26
PSERVICE	0	0	0	0	0	0	0	2715.16	3743.48	683.06	284.7
PCONSTR	0	0	0	0	0	0	0	2.74	101.98	59.19	1735.97
PTRADE	0	0	0	0	0	0	0	0	91.76	33.85	0
PTRANSP	0	0	0	0	0	0	0	66.96	283.13	1484.28	0
PFINANCE	0	0	0	0	0	0	0	2.04	172.07	274.52	9.53
PPROF	0	0	0	0	0	0	0	35.71	32.22	281.08	153.03
PEDUCAT	0	0	0	0	0	0	0	758.77	236.34	0.02	0
LAB	0	0	0	0	0	0	0	0	0	459	0
CAP	0	0	0	0	0	0	0	0	0	0	0
TAXACT	0	0	0	0	0	0	0	203.59	0	189	0
MARGIN	0	0	0	0	0	0	0	0	0	0	0
TAXPROD	0	0	0	0	0	0	0	41	0	0	0
D4	0	0	0	0	0	0	2775	311	234	207	0
D5	0	0	0	0	0	0	169	5	1141	0	0
D61	0	0	0	0	0	0	0	0	1809	0	0
D62	0	0	0	0	0	0	61	2352	0	56	0
D7	0	0	0	0	0	0	490	751	413	898	0
D8	0	0	0	0	0	0	179	0	0	0	0
CORP	1445	0	232	0	349	0	0	0	0	0	0
GOV	228	1315	1577	0	281	0	0	0	0	0	0
HOH	1199	0	0	2461	1393	179	0	0	0	484.26	0
ROW	655	0	0	8	529	0	0	0	485.54	0	0
SI	0	0	0	0	0	0	3885.92	-601	615	-378	0

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## APPENDIX 4. SOCIAL ACCOUNTING MATRIX FOR LITHUANIA (2010)

SAM for LT											
	AAGRI	AFOREST	AMINING	AFOOD	AOTHIND	AWOOD	AOILCH	AMINERA	ABMETAL	AMETAL	AEQUIPM
AAGRI	0	0	0	0	0	0	0	0	0	0	0
AFOREST	0	0	0	0	0	0	0	0	0	0	0
AMINING	0	0	0	0	0	0	0	0	0	0	0
AFOOD	0	0	0	0	0	0	0	0	0	0	0
AOTHIND	0	0	0	0	0	0	0	0	0	0	0
AWOOD	0	0	0	0	0	0	0	0	0	0	0
AOILCH	0	0	0	0	0	0	0	0	0	0	0
AMINERA	0	0	0	0	0	0	0	0	0	0	0
ABMETAL	0	0	0	0	0	0	0	0	0	0	0
AMETAL	0	0	0	0	0	0	0	0	0	0	0
AEQUIPM	0	0	0	0	0	0	0	0	0	0	0
AENERGY	0	0	0	0	0	0	0	0	0	0	0
ASERVICE	0	0	0	0	0	0	0	0	0	0	0
ACONSTR	0	0	0	0	0	0	0	0	0	0	0
ATRADE	0	0	0	0	0	0	0	0	0	0	0
ATRANSP	0	0	0	0	0	0	0	0	0	0	0
AFINANC	0	0	0	0	0	0	0	0	0	0	0
APROF	0	0	0	0	0	0	0	0	0	0	0
AEDUCAT	0	0	0	0	0	0	0	0	0	0	0
PAGRI	123.74	0	0.01	890.81	18.83	0	79.28	0.01	0	0	0
PFOREST	12.69	49.02	0	0	3.74	62.9	0.01	0.01	0	0	0
PMINING	39.94	0.11	10.98	26.7	17.28	22.05	3660.27	34.88	0.5	0.46	0.31
PFOOD	235.24	0.01	0.04	232.31	0.45	0	3.07	0.02	0	0.03	0.02
POTHIND	90.25	4.3	12.5	230.16	625.52	109.09	13.5	12.36	0.77	3.28	41.45
PWOOD	0.3	0	5.55	6.22	176.8	115.72	1.8	2.05	0.04	0.76	1.15
POILCH	546.42	33.49	13.44	46.65	356.61	70.39	1055.67	53.49	1.48	19.49	25.2
PMINERA	7.97	0.01	0.2	14.16	24.83	2.39	0.59	36.64	0.05	2.71	0.99
PBMETAL	0.36	0	4.24	3.03	27.81	0.08	1.07	0.78	3.02	67.2	19.82
PMETAL	3.56	0.08	0.52	11.38	49.43	16.78	17.31	1.22	31.23	49.39	44.51
PEQUIPM	76.66	1.11	4.92	71.88	48.77	9.8	8.25	7.16	0.32	42.52	206.97
PENERGY	46.35	0.45	2.08	65.09	90.51	16.22	66.92	29.93	1.99	8.6	15.05
PSERVICE	96.21	0.79	2.33	66.44	90.67	6.99	27.94	5.28	2	14.3	8.06
PCONSTR	12	0.75	0.01	9.94	12.22	3.3	20.49	1.83	0.36	6.62	1.85
PTRADE	15.46	0.06	0.02	1.12	6.78	0.41	0.45	1.22	0.01	0.46	0.18
PTRANSP	94.54	3.86	9.96	149.27	132.1	14.05	225.17	17.96	4.34	5.2	11.57
PFINANC	29.94	1.64	1.44	22.98	28.64	5.03	41.14	2.91	0.52	5.24	4.97
PPROF	22.32	0.34	5.06	87.87	39.34	2.66	63.22	4.85	0.13	50.43	4.03
PEDUCAT	0.02	0.01	0.25	1.17	0.42	0	0.51	0	0	0.09	0.11
LAB	240.81	56.5	34.35	456.52	777.78	146.16	167.64	78.19	12.26	110.56	157.26
CAP	511.05	77.21	57.42	665.29	854.69	170.36	778.85	72.92	12.27	89.01	164.33
TAXACT	-53.33	5.99	1.03	8.65	3.5	0.9	3.38	1.03	0.04	0.67	0.63
MARGIN	0	0	0	0	0	0	0	0	0	0	0
TAXPROD	0	0	0	0	0	0	0	0	0	0	0
D4	0	0	0	0	0	0	0	0	0	0	0
D5	0	0	0	0	0	0	0	0	0	0	0
D61	0	0	0	0	0	0	0	0	0	0	0
D62	0	0	0	0	0	0	0	0	0	0	0
D7	0	0	0	0	0	0	0	0	0	0	0
D8	0	0	0	0	0	0	0	0	0	0	0
CORP	0	0	0	0	0	0	0	0	0	0	0
GOV	0	0	0	0	0	0	0	0	0	0	0
HOH	0	0	0	0	0	0	0	0	0	0	0
ROW	0	0	0	0	0	0	0	0	0	0	0
SI	0	0	0	0	0	0	0	0	0	0	0

	AENERGY	ASERVICE	ACONSTR	ATRADE	ATRANSP	AFINANCE	APROF	AEDUCAT	PAGRI	PFOREST	PMINING
AAGRI	0	0	0	0	0	0	0	0	2101.06	0	0
AFOREST	0	0	0	0	0	0	0	0	0.39	210.63	0
AMINING	0	0	0	0	0	0	0	0	0	0	139.48
AFOOD	0	0	0	0	0	0	0	0	4.43	0	0
AOTHIND	0	0	0	0	0	0	0	0	0	0	0.32
AWOOD	0	0	0	0	0	0	0	0	0	2.2	0
AOILCH	0	0	0	0	0	0	0	0	0	0	0
AMINERA	0	0	0	0	0	0	0	0	0	0	14.6
ABMETAL	0	0	0	0	0	0	0	0	0	0	0
AMETAL	0	0	0	0	0	0	0	0	0	0	0
AEQUIPM	0	0	0	0	0	0	0	0	0	0	0
AENERGY	0	0	0	0	0	0	0	0	0	0	0
ASERVICE	0	0	0	0	0	0	0	0	0.42	1.29	0
ACONSTR	0	0	0	0	0	0	0	0	1.74	0.6	0
ATRADE	0	0	0	0	0	0	0	0	10.8	0	0
ATRANSP	0	0	0	0	0	0	0	0	0	0	0
AFINANCE	0	0	0	0	0	0	0	0	0	0	0
APROF	0	0	0	0	0	0	0	0	0.71	2.2	0
AEDUCAT	0	0	0	0	0	0	0	0	0	0	0
PAGRI	0	12.58	0.01	4.57	0.68	0	0.04	0.21	0	0	0
PFOREST	0	0.84	0	0	0.08	0	0	0	0	0	0
PMINING	440.22	20.75	25.99	0.84	1.9	0	0.46	0.06	0	0	0
PFOOD	0.01	116	0.04	30.03	0.66	0	1.4	1.84	0	0	0
POTHIND	92.41	419.99	32.49	169.77	351.08	27.73	34.18	225.24	0	0	0
PWOOD	4.38	198.64	11.56	10.29	0.36	0	1.47	0.12	0	0	0
POILCH	132.8	158.35	60.94	86.05	364.36	6.02	11.73	2.73	0	0	0
PMINERA	2.33	5.39	75.01	1.34	11.18	0.02	0.04	0.4	0	0	0
PBMETAL	3.83	7.42	29.74	0.43	0.36	0.53	0.09	0.14	0	0	0
PMETAL	2.84	140.44	154.63	1.39	13.75	0.33	45.14	0.83	0	0	0
PEQUIPM	29.45	249.82	86.85	33.06	15.59	6.06	14.03	2.8	0	0	0
PENERGY	925.68	349.91	16.62	59.76	144.7	13.46	8.58	21.37	0	0	0
PSERVICE	37.78	1419.59	67.43	455.54	253.1	130.14	138.83	22.17	0	0	0
PCONSTR	73.98	68.83	568.77	13.13	19.42	2.76	34.92	19.71	0	0	0
PTRADE	1.91	16.82	6.51	60.39	154.1	4.88	4.03	0.03	0	0	0
PTRANSP	2.01	158.85	40.55	684.17	773.56	17.04	5.85	0.76	0	0	0
PFINANCE	16.6	228.21	18.19	64.8	70.25	123.99	71.86	1.15	0	0	0
PPROF	30	188.4	86.5	288.92	52.76	88.87	207.37	5.74	0	0	0
PEDUCAT	0.24	28.17	1.32	11.65	2.7	7.03	10.74	11.8	0	0	0
LAB	254.99	3281.29	808.78	2031.75	882.96	279.49	454.12	1238.72	0	0	0
CAP	554.04	3538.4	655.66	2417.58	2044.05	422.56	463.67	125.73	0	0	0
TAXACT	1.68	36.69	6.38	20.79	9.65	11.21	5.21	0.31	0	0	0
MARGIN	0	0	0	0	0	0	0	0	520.58	104.57	291.88
TAXPROD	0	0	0	0	0	0	0	0	-261.19	4.96	3.28
D4	0	0	0	0	0	0	0	0	0	0	0
D5	0	0	0	0	0	0	0	0	0	0	0
D61	0	0	0	0	0	0	0	0	0	0	0
D62	0	0	0	0	0	0	0	0	0	0	0
D7	0	0	0	0	0	0	0	0	0	0	0
D8	0	0	0	0	0	0	0	0	0	0	0
CORP	0	0	0	0	0	0	0	0	0	0	0
GOV	0	0	0	0	0	0	0	0	0	0	0
HOH	0	0	0	0	0	0	0	0	0	0	0
ROW	0	0	0	0	0	0	0	0	818.2	16.91	5157.12
SI	0	0	0	0	0	0	0	0	0	0	0

	PFOOD	POTHIND	PWOOD	POILCH	PMINERA	PBMETAL	PMETAL	PEQUIPM	PENERGY	PSERVICE	PCONSTR
AAGRI	10.78	0	0	4.62E-13	0	0	0	0	0	7.59	0.06
AFOREST	0	0	5.13	0.01	0	0	0	0	0	11.17	0.22
AMINING	0	0	0	0.67	0	0	0	0	0	0	5.03
AFOOD	2780.53	0.99	0	5.42	0	0	0	0	0	7.58	3.22
AOTHIND	2.84	3037.29	66.54	9.3	1.81	3.3	71.04	9.52	2.52	29.03	4.28
AWOOD	0.46	64.77	682.96	0	0	0	1.8	0	0	6.51	2.07
AOILCH	23.16	1.81	0.94	6167.36	0	0	0	0	6.41	1.99	0
AMINERA	0	3.2	0.69	0	321.54	0	1.25	0	0.92	3.33	3.17
ABMETAL	0	0	0	0	0	53.86	17.01	0.45	0	0	0.01
AMETAL	0	44.25	1.19	0	0.69	2.45	328.72	21.71	0	22.27	13.88
AEQUIPM	0	52.65	0	1.34	0	1.29	8.59	591.62	0	11.48	0.41
AENERGY	0	0	0	0	0	0	0	0	2517.18	55.05	34.95
ASERVICE	1.53	29.22	0	0.02	0	0	0	4.8	7.74	10158.9	21.46
ACONSTR	0	0	0	0	10.66	0	8.5	4.15	4.78	45.6	2576.34
ATRADE	1.83	5.18	0	0	3.36	0	0	0	0.37	116.84	7.57
ATRANSP	0	5.96	0	0	0	0	0	0	0.52	27.03	9.25
AFINANCE	0	0	0	0.02	0	0	0	0	0	11.03	0
APROF	0	0.78	0	0	0	0	0	0	0	47.42	11.24
AEDUCAT	0	0	0	0	0	0	0	0	0	29.58	0.01
PAGRI	0	0	0	0	0	0	0	0	0	0	0
PFOREST	0	0	0	0	0	0	0	0	0	0	0
PMINING	0	0	0	0	0	0	0	0	0	0	0
PFOOD	0	0	0	0	0	0	0	0	0	0	0
POTHIND	0	0	0	0	0	0	0	0	0	0	0
PWOOD	0	0	0	0	0	0	0	0	0	0	0
POILCH	0	0	0	0	0	0	0	0	0	0	0
PMINERA	0	0	0	0	0	0	0	0	0	0	0
PBMETAL	0	0	0	0	0	0	0	0	0	0	0
PMETAL	0	0	0	0	0	0	0	0	0	0	0
PEQUIPM	0	0	0	0	0	0	0	0	0	0	0
PENERGY	0	0	0	0	0	0	0	0	0	0	0
PSERVICE	0	0	0	0	0	0	0	0	0	0	0
PCONSTR	0	0	0	0	0	0	0	0	0	0	0
PTRADE	0	0	0	0	0	0	0	0	0	0	0
PTRANSP	0	0	0	0	0	0	0	0	0	0	0
PFINANCE	0	0	0	0	0	0	0	0	0	0	0
PPROF	0	0	0	0	0	0	0	0	0	0	0
PEDUCAT	0	0	0	0	0	0	0	0	0	0	0
LAB	0	0	0	0	0	0	0	0	0	0	0
CAP	0	0	0	0	0	0	0	0	0	0	0
TAXACT	0	0	0	0	0	0	0	0	0	0	0
MARGIN	1665.48	1852.75	143.12	1409.18	164.56	62.28	220.66	730.09	33.69	204.68	0
TAXPROD	852.26	381.62	51	683.97	14.34	1.9	40.37	118.52	96.68	360.45	373.31
D4	0	0	0	0	0	0	0	0	0	0	0
D5	0	0	0	0	0	0	0	0	0	0	0
D61	0	0	0	0	0	0	0	0	0	0	0
D62	0	0	0	0	0	0	0	0	0	0	0
D7	0	0	0	0	0	0	0	0	0	0	0
D8	0	0	0	0	0	0	0	0	0	0	0
CORP	0	0	0	0	0	0	0	0	0	0	0
GOV	0	0	0	0	0	0	0	0	0	0	0
HOH	0	0	0	0	0	0	0	0	0	0	0
ROW	1463.91	3627.45	229.9	2310.29	220.81	474.16	379.98	2388.06	267.36	436.96	22.51
SI	0	0	0	0	0	0	0	0	0	0	0

	PTRADE	PTRANS	PFINANCE	PPROF	PEDUCAT	LAB	CAP	TAXACT	MARGIN	TAXPROD
AAGRI	24.59	8.42	0	0	0	0	0	0	0	0
AFOREST	1.86	6.32	0	0	0	0	0	0	0	0
AMINING	12.84	8.31	0	0.02	0	0	0	0	0	0
AFOOD	252.37	10.28	0	2.82	0	0	0	0	0	0
AOTHIND	132.83	7.41	0	7	1.69	0	0	0	0	0
AWOOD	12.34	2.17	0	0	0	0	0	0	0	0
AOILCH	15.60	16.74	0	2.52	0	0	0	0	0	0
AMINERA	13.40	2.36	0	0.28	0	0	0	0	0	0
ABMETAL	0.00	0	0	0	0	0	0	0	0	0
AMETAL	18.94	10.8	0	12.12	0	0	0	0	0	0
AEQUIPM	30.45	6.33	0	4.3	0	0	0	0	0	0
AENERGY	0.00	0	0	0	0	0	0	0	0	0
ASERVICE	231.36	6.46	35.78	146.4	0	0	0	0	0	0
ACONSTR	93.96	2.53	0	1.42	3.69	0	0	0	0	0
ATRADE	6216.09	56.71	0	27.5	0	0	0	0	0	0
ATRANSP	96.96	4985.18	0	24.51	17.84	0	0	0	0	0
AFINANC	0.00	0	1124.82	6.25	0	0	0	0	0	0
APROF	61.74	0	0	1368.3	21.37	0	0	0	0	0
AEDUCAT	0.40	0	0	72.02	1579.85	0	0	0	0	0
PAGRI	0.00	0	0	0	0	0	0	0	0	0
PFOREST	0.00	0	0	0	0	0	0	0	0	0
PMINING	0.00	0	0	0	0	0	0	0	0	0
PFOOD	0.00	0	0	0	0	0	0	0	0	0
POTHIND	0.00	0	0	0	0	0	0	0	0	0
PWOOD	0.00	0	0	0	0	0	0	0	0	0
POILCH	0.00	0	0	0	0	0	0	0	0	0
PMINERA	0.00	0	0	0	0	0	0	0	0	0
PBMETAL	0.00	0	0	0	0	0	0	0	0	0
PMETAL	0.00	0	0	0	0	0	0	0	0	0
PEQUIPM	0.00	0	0	0	0	0	0	0	0	0
PENERGY	0.00	0	0	0	0	0	0	0	0	0
PSERVICE	0.00	0	0	0	0	0	0	0	0	0
PCONSTR	0.00	0	0	0	0	0	0	0	0	0
PTRADE	0.00	0	0	0	0	0	0	0	0	0
PTRANSP	0.00	0	0	0	0	0	0	0	0	0
PFINANCE	0.00	0	0	0	0	0	0	0	0	0
PPROF	0.00	0	0	0	0	0	0	0	0	0
PEDUCAT	0.00	0	0	0	0	0	0	0	0	0
LAB	0.00	0	0	0	0	0	0	0	0	0
CAP	0.00	0	0	0	0	0	0	0	0	0
TAXACT	0.00	0	0	0	0	0	0	0	0	0
MARGIN	-6819.53	-583.99	0	0	0	0	0	0	0	0
TAXPROD	18.47	34.6	0	43.56	-0.09	0	0	0	0	0
D4	0.00	0	0	0	0	0	0	0	0	0
D5	0.00	0	0	0	0	0	0	0	0	0
D61	0.00	0	0	0	0	0	0	0	0	0
D62	0.00	0	0	0	0	0	0	0	0	0
D7	0.00	0	0	0	0	0	0	0	0	0
D8	0.00	0	0	0	0	0	0	0	0	0
CORP	0.00	0	0	0	0	0	10180	0	0	0
GOV	0.00	0	0	0	0	0	865.09	132.41	0	3138.15
HOH	0.00	0	0	0	0	11683.13	2630	0	0	0
ROW	28.49	491.71	63.88	120.62	0.7	72	0	0	0	54
SI	0.00	0	0	0	0	0	0	0	0	0

	D4	D5	D61	D62	D7	D8	CORP	GOV	HOH	ROW	SI
AAGRI	0	0	0	0	0	0	0	0	0	0	0
AFOREST	0	0	0	0	0	0	0	0	0	0	0
AMINING	0	0	0	0	0	0	0	0	0	0	0
AFOOD	0	0	0	0	0	0	0	0	0	0	0
AOTHIND	0	0	0	0	0	0	0	0	0	0	0
AWOOD	0	0	0	0	0	0	0	0	0	0	0
AOILCH	0	0	0	0	0	0	0	0	0	0	0
AMINERA	0	0	0	0	0	0	0	0	0	0	0
ABMETAL	0	0	0	0	0	0	0	0	0	0	0
AMETAL	0	0	0	0	0	0	0	0	0	0	0
AEQUIPM	0	0	0	0	0	0	0	0	0	0	0
AENERGY	0	0	0	0	0	0	0	0	0	0	0
ASERVICE	0	0	0	0	0	0	0	0	0	0	0
ACONSTR	0	0	0	0	0	0	0	0	0	0	0
ATRADE	0	0	0	0	0	0	0	0	0	0	0
ATRANSP	0	0	0	0	0	0	0	0	0	0	0
AFINANCE	0	0	0	0	0	0	0	0	0	0	0
APROF	0	0	0	0	0	0	0	0	0	0	0
AEDUCAT	0	0	0	0	0	0	0	0	0	0	0
PAGRI	0	0	0	0	0	0	0	0	1066.26	937.86	62.25
PFOREST	0	0	0	0	0	0	0	0	110.36	82.7	21.01
PMINING	0	0	0	0	0	0	0	0	35.22	97.9	1169.86
PFOOD	0	0	0	0	0	0	0	0	4610.96	1848.02	-277.37
POTHIND	0	0	0	0	0	0	0	241.48	2765.84	3836.13	-231.6
PWOOD	0	0	0	0	0	0	0	0	97.24	476.8	70.22
POILCH	0	0	0	0	0	0	0	0.02	1890.42	5110.13	541.7
PMINERA	0	0	0	0	0	0	0	0	163.21	169	219.31
PBMETAL	0	0	0	0	0	0	0	0	0	200.85	228.44
PMETAL	0	0	0	0	0	0	0	0	110.52	358.54	24.1
PEQUIPM	0	0	0	0	0	0	0	0	627.33	1734.47	591.1
PENERGY	0	0	0	0	0	0	0	32.03	964.3	58.57	0
PSERVICE	0	0	0	0	0	0	0	3776.34	3900.36	675.19	397.01
PCONSTR	0	0	0	0	0	0	0	0	131.45	64.28	2022.37
PTRADE	0	0	0	0	0	0	0	0	150.26	18.06	0
PTRANSP	0	0	0	0	0	0	0	80.1	558.29	2083.14	0
PFINANCE	0	0	0	0	0	0	0	33.01	403.38	48.59	0
PPROF	0	0	0	0	0	0	0	0	164.4	181.05	265.38
PEDUCAT	0	0	0	0	0	0	0	1341.48	205.25	2.09	0
LAB	0	0	0	0	0	0	0	0	0	285	0
CAP	0	0	0	0	0	0	0	0	0	0	0
TAXACT	0	0	0	0	0	0	0	33	0	35	0
MARGIN	0	0	0	0	0	0	0	0	0	0	0
TAXPROD	0	0	0	0	0	0	0	105	0	269.14	0
D4	0	0	0	0	0	0	6197	510	220	269	0
D5	0	0	0	0	0	0	276	0	1040	12	0
D61	0	0	0	0	0	0	0	0	3644	11	0
D62	0	0	0	0	0	0	118	4009.41	0	34	0
D7	0	0	0	0	0	0	643	347	113	1649	0
D8	0	0	0	0	0	0	96	0	0	0	0
CORP	1121	0	214	0	402	0	0	0	0	0	0
GOV	192	1294	3398	0	401	0	0	0	0	0	0
HOH	4629	0	0	4158.41	1282	96	0	0	0	550.32	0
ROW	1254	34	43	3	667	0	0	0	540.81	0	0
SI	0	0	0	0	0	0	4587	-1088.22	1516	89	0