INSTITUTE FOR POLICY AND STRATEGY STUDIES (IPSS)

NATIONAL STATISTICS OFFICE OF VIETNAM (NSO)

UNIVERSITY OF COPENHAGEN



VIET NAM ENERGY-FOCUSED SOCIAL ACCOUNTING MATRIX (ESAM)

Building an Energy focused Social Accounting Matrix and Models for Just Energy Transition

POLICY REPORT

July, 2026

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Building An Energy Focused Social Accounting Matrix in 2019 for Viet Nam

Technical Report

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In collaboration with

NATIONAL STATISTICS OFFICE (NSO)

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NSO's team developed the Energy Supply-Use Table (ESUT) 2019 and the Energy accounts, while the IPSS team collected state budget and BoP data, developed household disaggregated data based on VHLSS 2018, developed GHG emission data, and drafted the ESAM report. The IPSS team includes Dr. Dang Thi Thu Hoai, MA. Pham Phu Minh, Dr. Ha Thi Thu Thuy, MA. Nguyen Hoang Kim Ngan; Dr. Ho Cong Hoa (Academy of Policy and Development), MA Nguyen Thi Thuy Trang (National Institute for Economics and Finance). The University of Copenhagen team (Prof. Finn Tarp and Mr. Dirk van Seventer through IFPRI) helped compile the ESAM and provided technical guidance for the IPSS and NSO teams.

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INTRODUCTION

An Energy-focused Social Accounting Matrix (ESAM) is an economy-wide database that captures product flows, monetary circulations, and the processes of income generation and distribution among industries and institutions within a given year. Compared to a conventional Social Accounting Matrix (SAM), the ESAM extends its scope by emphasizing energy production and consumption in both physical and monetary terms, and related policy issues. This approach allows for a more comprehensive understanding of the economy, while enabling the analysis of structural changes in the energy sector, which is at the core of climate change adaptation and mitigation strategies. ESAMs are not only descriptive tools but also serve as input data for policy analysis models, such as multiplier models and Computable General Equilibrium (CGE) models, to evaluate and propose evidence-based policy recommendations.

Viet Nam recognizes climate change as an irreversible trend and the greatest global challenge, affecting economics, politics, diplomacy, and security. Under the Paris Agreement, every participating country must proactively adapt, mitigate adverse impacts, and take responsibility for reducing greenhouse gas (GHG) emissions through their Nationally Determined Contributions (NDCs). The global objective of reaching net-zero emissions by 2050, primarily via energy transition and low-emission development, has become a new international norm in trade and investment, particularly after COP26. For Viet Nam, this transition poses both challenges and opportunities: restructuring the economy toward sustainability, enhancing competitiveness, and seizing cooperation and investment opportunities. Despite initial progress in climate action, a paradigm shift is required, placing climate change at the heart of policy to effectively and transparently achieve global goals while fostering a green, circular, and environmentally friendly economy. This transformation aligns with Viet Nam's long-term vision of becoming a high-income developed country by 2045.

In line with this vision, the National Climate Change Strategy to 2050 (Decision No. 896/QĐ-TTg, dated July 26, 2022) sets out Viet Nam's commitment to achieving net-zero GHG emissions by 2050, enhancing adaptive capacity, and leveraging climate action as a driver of economic transformation. Within this context, updating and developing the ESAM enhances its relevance and effectiveness in analysing new policy challenges in both domestic and international settings, with a particular focus on energy and emissions reduction pathways.

This report presents the most updated ESAM for Viet Nam for the year 2019. Compared to the 2012 SAM, the ESAM 2019 provides a higher level of disaggregation of the energy sector. A key innovation of the ESAM 2019 is that it is the first attempt to link with energy accounts and emissions based on using energy allowing for more precise policy simulations on green transition in Viet Nam's power generation, which is central to future carbon emission reduction strategies.

Beyond disaggregating electricity production in both physical and monetary terms, household energy consumption data were updated using the Viet Nam Household Living Standards Survey (VHLSS) 2018, ensuring that energy use at the household level is fully captured in the ESAM framework.

The ESAM 2019 is expected to serve as a robust database for analysing Viet Nam's energy transition, evaluating the impacts of climate policies, and identifying pathways toward the country's net-zero target. Moreover, it provides a baseline for benchmarking, monitoring, and assessing the implementation of the National Climate Change Strategy to 2050 and the Green Growth Strategy, thereby supporting Viet Nam's sustainable development trajectory.

CHAPTER 1. Overview and Structure of the ESAM 2019 for Viet Nam

1.1. Overview

The Viet Nam ESAM 2019 is a 394x394 matrix (394 rows and 394 columns), with the general structure shown in Table 1. Aside from the four columns/rows that are not further disaggregated (columns/rows 6, 8, 9, 10), the remaining columns/rows in the ESAM 2019 are detailed in Table 1 as follows:

- Column 1 is disaggregated into 178 economic sectors. These sectors are those in the 2019 SUT table, as shown in Appendix 1
- Column 2 is disaggregated into 173 corresponding product sectors and 3 Trade and transport margins columns.
- Column 3 is disaggregated into 11 factors of production, including 6 types of labour, which are categorized in two dimensions, urban/rural and three education levels (primary school graduate, secondary school graduate, and high school graduate and above), as well as 2 types of capital (agricultural and non-agricultural), land, livestock, and fish.
- Column 4 is disaggregated into 2 types of enterprises, i.e., agricultural and non-agricultural enterprises.
- Column 5 disaggregates households into 20 types, grouped based on three dimensions: urban/rural, agricultural/non-agricultural, and quintiles of income/expenditure (from the poorest household group - quintile 1 - to the richest household group - quintile 5).
- Column 7 is disaggregated into 4 types of taxes, including taxes on activities, taxes on commodities, import taxes, and direct taxes. The concordance table for the classification of these tax types compared to state budget revenue data from the Ministry of Finance (MEF) is detailed in Appendix 2.

Table 1: Basic structure of Viet Nam ESAM 2019

	Row serial number	Activities	Commodi-ties	Factors	Enterprises	Households	Govern-ment	Taxes	Investment	Change in stocks	Rest of the World	Total
		1 (178)*	2 (173)	3 (11)	4 (2)	5 (20)	6 (1)	7 (4)	8 (1)	9 (1)	10 (1)	
Activities	1		Marketed output									Domestic supply
Commodities	2	Interme-diate inputs	Transaction costs			Marketed consump-tion of households	Govern-ment consump-tion		Investment	Changes in stocks	Exports	Total demand
Factors	3	Value-added									Income received from production factors abroad	Factor earnings
Enterprises	4			Factor income to enterprises			Transfers to enterprises				Transfers from the rest of the world	Enter-prise earnings
Households	5			Factor income to households	Indirect capital payments		Transfers to households				Transfers from the rest of the world	Household income
Governme nt	6				Revenue from state owned enterprises			Revenue from taxes			Foreign transfers to the governmen t	Govern-ment income
Taxes	7	Activity taxes	Sales taxes	Factor taxes	Corporate income taxes	Personal taxes						Revenue from taxes
Savings	8				Enterprise savings	Household savings	Govern-ment savings				Foreign savings	Total savings
Change in stocks	9								Changes in stocks			Changes in stocks
Rest of the world	10		Imports	Payments to foreign owned factors of production		Transfers to the rest of the world						Foreign exchange outflows
Total		Domestic output	Total supply	Factor outlays	Enterprise outlays	Household Outlays	Govern-ment outlays	Revenue from taxes	Investment	Changes in stocks	Foreign exchange inflows	

*Note: *Numbers in bracket report the level of disaggregation of that column/row in the Micro Viet Nam 2019 ESAM.*

Source: Authors' compilation.

1.2. Steps to construct ESAM

Previous tables were constructed using a dedicated SAM toolkit. The SAM toolkit was originally developed by the International Food Policy Research Institute (IFPRI) and has been used to build SAMs in many countries, including for Viet Nam in 2000, 2003, 2007, 2011, and 2012. The SAM

toolkit for 2019 is a simplified version thereof in that the NSO Supply Table and Use Table (SUT) could be combined into an intermediate Supply-Use SAM (SUTSAM) together with State Budget Data (GFS) and Balance of Payment (BoP) Statistics that is consistent with the 2019 National Accounts without the need for rebalancing the SUT part. Primary and secondary incomes and savings were rebalanced manually. The SUTSAM is a SAM with a single type of labour and a single representative household. Calculations and data preparation for disaggregating the household account and production factor account for labour are drawn from the household and labour force surveys respectively using Stata software. Integration and rebalancing of the detailed household and production factor accounts into the SUTSAM is set up in Excel using bi-proportional scaling.[1] The end results are a full-blown ESAM with disaggregated electricity generation. The full-blown ESAM can be aggregated into a Macro ESAM as shown in Table 2.

1.3. Input data for ESAM

The input data for constructing the ESAM table is compiled from the following main sources:

- Viet Nam's 2019 Supply Table (ST) and Use Table (UT), developed by a team of experts from the National Statistics Office (NSO).
- State budget revenue and expenditure data from the Ministry of Finance (MOF).
- Some information from the International Balance of Payments (BoP) table from the State Bank of Viet Nam.
- Income and expenditure data from the 2018 Viet Nam Household Living Standards Survey (VHLSS 2018).
- Wage earnings by types of labour and industry from the 2018 Labour Force Survey (LFS 2018).

Each data source is described in more detail below:

Firstly, the 2019 ST and UT are the primary data sources for building the ESAM. These tables are based on detailed data for Viet Nam's economy with a classification structure of 178 local industries (including service providers) and 173 products (commodities). Notably, the number of industries is greater than the number of products because there are six electric power industries while there is one electric power commodity identified. The ST describes how local industries generate domestic supply at basic prices. Several items are added in the ST to domestic supply at basic prices, such as transport fees, distribution margins, various product taxes and imports. This yields total supply at market prices. The UT details how local industries generate output by combining intermediate inputs of 173 products with primary inputs from factors of production. The UT also details final consumption by households, the government, investment demand, changes in stocks and exports.

Secondly, data on state budget revenues and expenditures from MOF are used to supplement information that the SUT 2019 table lacks or has not detailed. In terms of revenue, the 2019 ST and UT only provide state budget revenue data from three sources: taxes on activities, Value Added Taxes (VAT), and import taxes. This reflects only a portion of the total state budget revenue. State budget expenditures in 2019 ST and UT only include spending on products, without

[1]Household outlays (expenditure on goods and services, taxes, savings and transfers to the rest of the world) are given from the VHLSS data source. Since household income must equal household expenditure, the sources of the former are scaled to total expenditures such that it also matches the given totals for the sources of income (wage earnings, direct and indirect income from capital and transfers from government and the rest of the world) that are also derived from the VHLSS (and Labour Force Survey).

transfers/subsidies from the government to households. Therefore, the research team used supplementary information on state budget revenues and expenditures for 2019 from MOF data to more fully reflect Viet Nam's 2019 state budget revenue and expenditure in the 2019 ESAM table.

Thirdly, data from the 2019 Balance of Payments (BoP) table from the State Bank of Viet Nam (using a USD exchange rate of 23,224 VND) supplements missing information from 2019 ST and UT regarding foreign primary and secondary income flows.

Fourthly, data from the 2018 Viet Nam Household Living Standards Survey (VHLSS 2018) is used to calculate the consumption shares of each household type for each product, the share of labour payments by labour type for each industry, and the share of labour income for each labour type and other incomes by detailed households. This allows for the detailed disaggregation of household and factor accounts in the 2019 ESAM.

Fifthly, data from the 2018 Labour Force Survey (LFS 2018) is used to supplement the data on the share of labour income by disaggregated industries. Data on income by type of labour and by industry are available at the 5-digit industry level in LFS 2018 and therefore can supplement the missing data for certain industries in household surveys.

The input data for the 2019 ESAM table is compiled from various sources as described above. As mentioned earlier, when assembling the data into the matrix cells, an imbalance between the corresponding row and column totals of the household income and expenditure accounts in the 2019 ESAM remains. A bi-proportional scaling method was used to balance these accounts. This method distributes the difference between the account totals in a proportional and iterative way across the entries of these accounts, while allowing for the rest of the ESAM to remain fixed.

CHAPTER 2. Macro ESAM

The results of the aggregated macroeconomic ESAM table for Viet Nam in 2019 are presented in Table 2. Each value in the Macro ESAM will be detailed in the section below.

2.1. Overview of accounts in the 2019 ESAM

2.1.1. Activities and commodities

***Activities*:** These accounts represent supply of goods and services by local industries. They show the total domestic supply at basic prices, which, when combined with imports and various taxes and margins, constitutes the total supply of goods at market prices. These additional items will be discussed later. The local industries use intermediate inputs and factors of production like labour, capital, and land. This details the production costs as well as payments to product accounts and factors of production. Total value added at factor costs is calculated as the sum of factor remuneration. If production taxes are added and production-based subsidies are subtracted, total value added is measured at basic prices.

***Commodities*:** The commodities account records the flow of goods and services in the economy. On the supply side, this account shows the value of domestically produced products, imports, and related taxes and subsidies. On the demand side, it records the intermediate consumption of businesses (industries) and the final consumption of households and the government, along with investment and exports. This account is in balance, meaning total supply must equal total demand. Very small remaining differences are added to the changes in stocks account.

2.1.2 Factors

The main factors of production are capital and labour, although they can be further disaggregated to include land or natural resources, depending on the analysis. The more specific the classification, the more helpful it is for studying economic issues.

These factors generate income from domestic production activities and from abroad. This income is then distributed to the owners of the factors, including households (in the form of wages and profits), enterprises (gross profit), and the government (resource fees or income from state owned enterprise). The classification of production factors must be consistent with the institutional sector classification to ensure accuracy when analysing income changes.

2.1.3. Institutions

***Households*:** This is a crucial institution that acts as the owner of factors of production like labour, capital, and land (including livestock and fish stock). Their sources of income are diverse, including wages and salaries from work, profits from enterprises, subsidies from the government, and remittances from abroad. This income is used to consume goods and services, pay taxes, and transfer money to other organizations and abroad. The remaining income after expenditures is considered household savings. For a more in-depth analysis, the household account can be broken down into smaller groups with similar characteristics.

***Enterprises*:** are institutions that own production activities and receive income from the capital factor of production and transfers. They play a key role in receiving profits from capital and converting income from factors of production into disposable income. An enterprise's income is used to pay direct taxes, make transfers to other institutions such as households, government and the rest of the world, while the residual is converted into savings.

Government: is represented by the public administration account. This account records the government's main sources of income, including revenue from state owned assets, transfers, and especially taxes. For effective fiscal policy analysis, this account is often broken down to detail different types of taxes, such as taxes on products (VAT, import/export taxes), taxes on production activities, and direct taxes (income tax). Subsidies are recorded as a negative tax. Government income is used to purchase public goods and services, transfer money to households and enterprises, or provide aid to other countries. The difference between the government's income and expenditure reflects the nation's financial status, indicating a surplus (savings) or a budget deficit.

2.1.4. Capital account (savings and investment)

This account's rows record the savings generated by all domestic institutions, along with capital transfers from foreign institutions. The columns record investment expenditures on goods and services to create new capital. This includes Gross Fixed Capital Formation and changes in inventories (stocks) within the commodities accounts, covering all investment in the economy.

2.1.5. Rest of the world

The "Rest of the World" (ROW) account aggregates all country transactions with foreign entities. This account records income from exports and funds transferred from abroad, along with expenditure for imports and outgoing transfers. The balance of this account shows whether the country has a surplus or a deficit in its transactions with the rest of the world, often referred to as the Balance of Payment (BoP).

2.2. Sub-matrices in ESAM 2019

In this section the ESAM will be explored in more detail. References to a specific cell are as follows: (row, column). The cells are discussed in clusters that represent a functional order starting with production which is followed by domestic final demand, income distribution and associated transfers, taxes and finally, the rest of the world. Values are in VND Thousand Billion.

2.2.1. Production sector

Cell (1,2) Domestic Gross Output of Goods (Activities - Commodities): 21,355

This value represents the total supply of domestically produced goods and services across all economic sectors (at producer or basic prices). The value and disaggregation of the Supply Matrix of the ESAM is consistent with the transpose of the 2019 ST.

Cell (2,1) Intermediate Consumption (Commodities - Activities): 14,297

This represents the total value of goods and services used as intermediate inputs for the production process across all economic sectors. The data is compiled from information in the 2019 UT.

2.2.2. Final consumption

Cell (2,7) Private Consumption (Commodities - Households): 4,264

This submatrix represents household spending on goods and services. The final consumption value of households (including both domestically produced and imported goods) is derived from the 2019 UT table. Information on households is disaggregated using the 2018 NSO Viet Nam Household Living Standards Survey (VHLSS 2018). Accordingly, households are separated based on the criteria of urban/rural, agricultural/non-agricultural, and five income quintiles based on average per capita income. This household disaggregation allows for the calculation of direct

consumption patterns and the distribution of expenditures. This is crucial for evaluating the impact of policy changes on welfare and consumption.

Cell (2,8) Government Consumption (Commodities - Government): 738

This represents a column vector with the final consumption of the government, aggregated from the 2019 UT table. The 2019 UT table assumes that the government only spends on certain services like healthcare, education, science and technology, public administration, and transportation. Note that government is identified here as an institution purchasing only a limited number of services. However, in the ESAM, public administration is also identified as a product (commodity) as well as an industry. In terms of the latter, it purchases – like any other industry – a wide range of intermediate inputs and pays labour (civil servants).

Cell (2,10) Total Asset Accumulation – Changes in Inventories (Commodities – Stock Change): 118

This represents the value of total goods held as inventory and is based on detailed values and totals from the 2019 UT.

This cell value represents the total level of private and public investment. It is derived from the 2019 UT *Cell (2,11) Total Asset Accumulation – Investment (Commodities – Investment): 2,333*

table.

Cell (2,12) Total Exports (Commodities – RoW): 6,573

This cell value shows the goods and services sold to foreign countries. The total value of goods and services exported (at FOB prices) is aggregated from the 2019 UT.

2.2.3. Value added

Cell (3,1) Total Value Added derived from Land (Land - Activities): 53

This represents the total value added derived from land as a factor of production and includes value added from livestock and fish stock. The value added from land is derived from the 2019 SUT table using detailed shares in the 2012 SAM with the assumption that return rate to land in total capital for livestock and fish was from 86% to 94%.

Cell (4,1) Total Value Added from Labour (Wages and Salaries - Activities): 4,582

This value represents the total primary income derived from labour as a factor of production (wages and salaries). The value added appropriated by labour is available from the 2019 UT.

Cell (5,1) Total Value Added from Capital (GOS - Activities): 2,323

This value represents the total primary income derived from capital as the production factor. The value added appropriated by capital is available from the 2019 UT. The value added from land [see cell (3,1)] is subtracted.

Cell (4,12) Primary Income Received by Labour from the Rest of the World (Wages and Salaries – RoW): 7

This value represents the wages and salaries of Viet Nam workers employed outside the territory. The value is estimated based on the assumption that there were 147,387 Viet Nam workers employed abroad earning US$2,904 per annum. This represents 13.5% of total primary income for all labour plus capital income earned overseas according to the BoP data. The rest is allocated to capital (see next section). The breakdown into various types of labour is based on average earnings shares observed in the domestic labour market.

Cell (5,12) Primary Income Received by Capital from the Rest of the World (GOS – RoW): 45

This value represents the receipt of primary income for the production factor capital from. the rest of the world. It is the difference between the total amount identified in the BoP statistics and what is received on behalf of the production factor labour (see previous item). All the value is allocated to non-agricultural capital, i.e., no agricultural capital income is received from abroad.

2.2.4. Income distribution and transfers

Cell (7,3) Household Income from Land Factors (Households - Land): 53

Households earn income from the factor of production land (including livestock and fish stock). The full amount of income generated by this factor of production is distributed to farm-based households. Total factor income from land received by households is disaggregated into different household groups initially based on shares from the VHLSS, adjusted to fit individual labour and household accounts using a bi-proportional scaling routine.

Cell (7,4) Household Income from the Production Factor Labour (Households - Wages and Salaries): 4,485

This value represents income from the production factor labour (wages and salaries) paid to households. The data shown in the Macro ESAM of Table 2 is estimated as the residual of the income and expenditure account of the production factor labour. The breakdown of the value shown in the Macro ESAM into various types of labour and households is initially based on shares from VHLSS data and adjusted to fit individual labour and household accounts using a bi-proportional scaling routine.

Cell (6,5) Enterprises Income from the Production Factor Capital (Enterprises – GOS): 2,003

This value represents the transfer of income earned by the production factor capital to the institution enterprises. This value is estimated as a residual of the income and expenditure account for the production factor capital.

Cell (7,5) Household Income from the Production Factor Capital (Households - GOS): 27

This cell's value represents the income households receive from capital ownership. Household income from the production factor capital originates from the surplus generated by self-employed individuals and other income generated from capital. The breakdown of the value shown in the Macro ESAM into various types of labour and households is initially based on VHLSS data and adjusted to fit the capital and household accounts using a bi-proportional scaling routine.

Cell (6,8) Transfers (Subsidies) from the Government to Enterprises (Enterprises - Government): 216

This value represents government transfers to enterprises, sourced from the state budget revenue and expenditure data of the Ministry of Finance. This value is the total of government interest payments and other transfers (subsidies) to enterprises.

Cell (7,6) Enterprise Income Distributed to Households (Households - Enterprises): 968

This value represents the profits distributed by enterprises to households, calculated as total enterprise income minus corporate income taxes, other non-tax expenses to government, and retained earnings (savings) by enterprises. It is calculated as the residual to balance income and outlays by enterprises. This value illustrates the income households receive indirectly from the production factor capital. This can be in the form of dividend payments and may include other direct transfers from enterprises to households. The main data source for the distribution of the

value in this cell across households is the VHLSS which is then adjusted to fit the enterprise and household accounts using a bi-proportional scaling routine.

Cell (7,8) Transfers from the Government to Households (Households - Government): 113

Government social transfers to households are derived from the MOF state budget expenditure data. In the 2019 ESAM, government social transfers are disaggregated for different household groups based on the results of the 2018 VHLSS which is then adjusted to fit the government and household accounts using a bi-proportional scaling routine.

Cell (7,12) Remittances to Households from Abroad (Households - RoW): 264

Household remittances received from abroad are calculated using data on transfers from abroad in the State Bank BoP table, minus the net transfers from abroad to the Government. The transfers are disaggregated for different household groups based on the results of the 2018 VHLSS which is then adjusted to fit the government and household accounts using a bi-proportional scaling routine

Cell (8,6) Other Non-tax Revenue of the Government from Enterprises (Government - Enterprises): 426

This value represents government non-tax revenues received from enterprises, aggregated from the MOF state budget revenue information. This includes revenues from fees, charges, land rent, sales of state-owned houses and enterprises, land use rights, and other revenues.

Cell (8,9) Government Tax Revenue (Government - Taxes): 1,169

The total government revenue from taxes is the sum of production taxes (100), commodity taxes (687), all taken from the 2019 UT, corporate taxes (271) sourced from MOF, and household income tax (111) derived from VHLSS. These are discussed in more detail in a later subsection.

Cell (8,12) Net Transfers from the RoW to the Government (Government - RoW): 5

This value represents transfers the government receives from abroad, including international cooperation and ad hoc aid, derived from the MOF state budget revenue data.

2.2.5. Accumulation

This section represents the flow of funds related to savings and investment.

Cell (11,6) Enterprise Savings (Savings - Enterprises): 555

Enterprise savings are calculated based on an assumed savings rate for enterprises of 25% of their total income.

Cell (11,7) Household Savings (Savings - Households): 1,480

Household savings are calculated as the residual of the households accounts. In other words, it is total household income minus total household consumption of goods and services, some transfers to the rest of the world and their tax obligations. Household savings are disaggregated into various household types (urban-rural/farm-nonfarm/income quintiles) according to shares from the 2018 VHLSS.

Cell (11,8) Government Savings (Savings - Government): 534

This cell value is the residual after balancing all government revenues and expenditures. These values do not include "development investment expenditures" from the MOF, as this is part of total investment.

Cell (11,12) Foreign Savings (Savings –Rest of the World): -118

This cell represents foreign savings as the difference between investment and domestic savings (see previous three items) and can be calculated as such. At the same time the value in the cell represents the residual item on the current account of the BoP, calculated as the difference between the value of all items received from, and all payments made to the ROW. The difference is +118. In other words, the country receives more than it pays the rest of the world. In doing so, the country extends a credit to ROW which translates into a negative foreign savings of -118.

2.2.6. Tax accounts

Cell (9,1) Production Tax (Taxes - Activities): 100

This value represents the total production tax raised on industries. It is taken from the production taxes in the 2019 UT. This tax can be considered a form of indirect tax on the production process, such as registration fees, pay roll taxes or natural resource taxes.

Cell (9,2) Commodity Tax (Taxes - Commodities): 687

This value represents the indirect taxes on goods and services in the economy. It is taken from the 2019 UT. Indirect tax is the total revenue from commodity and import taxes. In the state budget, indirect taxes include VAT on imported goods, excise tax and environmental protection taxes, VAT on domestically consumed goods and services, special commodity taxes and domestic consumption services taxes.

Cell (9,6) Corporate Tax (Taxes - Enterprises): 271

This value represents corporate income tax (CIT), sourced from the aggregated data reported on the Viet Nam Fiscal Transparency Portal, Ministry of Finance.

Cell (9,7) Household Income Tax (Taxes - Households): 111

This value is household income taxes derived from the state budget revenue information of the MOF, which includes personal income tax and land and house tax. Disaggregation into various types of households is based on shares from the VHLSS.

2.2.7. Remaining accounts with the ROW

Cell (12,2) Total Imports (RoW - Commodities): 6,279

This value represents the total value of imported goods and services for the economy, aggregated based on information from the 2019 UT.

Cell (12,4) Net Expenditure on Foreign Labour Factors (RoW - Wages and Salaries): 104

This value represents wage earnings by foreign labour working in Viet Nam (Wages and salaries).The value is estimated based on the assumption that there were 117,800 foreigners working in Viet Nam in 2019 and their average income was US$78,750 per annum. Therefore, total primary income for the production factor labour is US$9.2billion. It is assumed that about 50% of this income is transferred to the rest of the world. Total primary income transferred to abroad, i.e., for labour plus capital is US$19billion or VND442 billion according to BoP statistics. Thus, in local currency labour represents VND104 billion. The rest is sent abroad on behalf of the production factor capital (see next item). The breakdown into various types of labour is based on shares observed in the domestic labour market.

Cell (12,5) Net Expenditure on Foreign Capital Factors (RoW - GOS): 338

This value represents the remuneration for certain types of foreign capital ownership in Viet Nam. They are transfer of primary income for the production factor capital to the ROW. It is the difference between the total amount identified in the BoP statistics (for labour *plus* capital) and what is transferred on behalf of the production factor labour (see previous item). All the value is allocated to non-agricultural capital, i.e., no income of agricultural capital is transferred abroad.

Cell (12,7) Transfers from Households Abroad (RoW - Households): 55

This value represents secondary income transfers by domestic households to other households, institutions, or organizations abroad. Disaggregation is based on the weighted shares of all other household outlays, i.e., expenditures on goods and services [cell (2,7)], income tax payments [cell (9,7)] and savings [cell (11,7)].

Table 2: Macro ESAM

(Unit: Thousand Billion VND)

	Row	Activities	Commodities	Land	W&S	GOS	Enterprises	Households	Gov	Tax	Changes in stocks	Invst	RoW	Total
		1	2	3	4	5	6	7	8	9	10	11	12	13
Activities	1		21,355											21,355
Commodities	2	14,297						4,264	738		118	2,333	6,573	28,322
Land	3	53												53
Wages and salaries	4	4,582											7	4,589
GOS	5	2,323											45	2,368
Enterprises	6					2,003			216					2,220
Household	7			53	4,485	27	968		113				264	5,910
Government	8						426			1,169			5	1,601
Tax	9	100	687				271	111						1,170
Change in stocks	10											118		118
Savings	11						555	1,480	534				-118	2,450
ROW	12		6,279		104	338		55						6,776
Total	13	21,355	28,322	53	4,589	2,368	2,220	5,910	1,601	1,169	118	2,450	6,776	

CHAPTER 3. Micro ESAM – Structure of Viet Nam Economy in 2019

3.1. Production and trade

The structure of key macroeconomic indicators by sector, as reflected in the 2019 micro–Energy Social Accounting Matrix (micro-ESAM), is presented in Table 3.

Structure by main economic sectors

The Industrial and Construction sector dominated the economy, contributing the largest share among the three main sectors to all indicators: Gross output (63.8%), GDP (40.3%), imports (91.1%), and exports (91.5%). This confirms its role as the primary engine for national production and international trade.

The Service sector accounted for 45.1% of GDP and 25.3% of gross output, making it the largest contributor to value added. However, Services contributed the smallest share to exports (5.5%) compared to the other two main sectors.

Conversely, although Viet Nam is a leading global exporter of several agricultural commodities such as rubber, coffee, pepper, and rice, the Agriculture sector only accounted for 2.3% of total exports. This sector also had the smallest shares in total gross output (9.2%) and GDP (13.0%) and represented 5.2% of total imports.

Detailed analysis by sub-sector

Agriculture sector: Livestock, pig farming, aquaculture, and coffee were the largest contributors to exports (0.1% for Livestock and 0.0% for Fisheries). However, paddy rice made the highest contribution to gross output (1.3%) and GDP (2.2%).

Industry sector:

Textile and apparel (21.4%), food manufacturing (8.4%), and crude oil extraction (0.8%) were significant contributors to exports. Metal products and chemical manufacturing also played important roles, contributing 2.7% and 4.6% of total exports, respectively. Petroleum products (fuel oil and gasoline; lubricants) accounted for 0.8% of exports and 4.4% of imports, following fabricated metals (a_084 – 1.6%) and other chemical products (a_074 – 0.9%).

Most notably, the broader group of machinery, equipment, and other manufacturing activities made the largest contributions to both exports (49.4%) and imports (48.2%), but its share of GDP remained relatively modest at 9.6%. The Gross output share for this group is approximately 23%, while its GDP share is under 10%.

This suggests that the industry is deeply integrated into global supply chains, evidenced by the very high import and export ratios for components and raw materials (close to 50% of the national total for both). However, the share of value added (GDP) generated locally in Viet Nam is low, indicating a prevalence of assembly and processing activities. This phenomenon suggests that the real impact of deep engagement in international supply chains may be limited in terms of initial domestic value addition. Nevertheless, this process still offers potential benefits through "learning by doing," enabling enterprises to gradually move up the value chain.

Service sector:

Commercial services contributed the most to GDP (8.8%), followed by other financial services (4.2%); other information services (3.9%); public administration, defence, and compulsory social security (3.2%); and air cargo transportation services (2.8%). Education and training combined contributed 3.2% to GDP (from sub-sectors a_166 at 0.8% and a_167 at 2.4%). Among services, waterway cargo transportation (a_134) and railway freight transport (a_130) had the most notable export shares (1.1% and 1.0% respectively). This export share is likely linked to the strong growth of tourism and the increased demand for business travel, driven by the expansion of international supply chain activities.

Table 3: Some indicators by sectors

Unit: %

Sectors		Share of total			
		Gross output	***GDP***	***Import***	***Export***
Total		100.00	100.00	100.00	100.00
Agriculture, Forestry and Fisheries		9.17	12.98	5.21	2.27
	Crop Production	4.15	7.08	3.96	2.10
a_001	Paddy	1.28	2.17	0.01	0.00
a_002	Corn and other grain food products	0.14	0.25	1.14	0.02
a_003	Root crop products contain starch	0.15	0.27	0.08	0.05
a_004	Oil-bearing plant products	0.07	0.11	0.28	0.01
a_005	Fresh sugar cane	0.09	0.13	0.00	0.00
a_006	Vegetables, beans of all kinds	0.67	1.13	0.08	0.01
a_007	Annual flower products	0.14	0.22	0.01	0.02
a_008	Other remaining annual crop products	0.17	0.32	0.98	0.06
a_009	Fruit tree products	0.74	1.13	0.42	0.89
a_010	Dried cashews	0.03	0.07	0.75	0.03
a_011	Pepper seeds	0.07	0.15	0.02	0.22
a_012	Dried latex	0.24	0.50	0.14	0.36
a_013	Coffee beans	0.26	0.41	0.03	0.38
a_014	Fresh tea buds, fresh tea leaves	0.04	0.09	0.01	0.02
a_015	Other remaining perennial plant products	0.07	0.13	0.03	0.03
	Livestock	2.26	2.35	0.35	0.05
a_016	Buffalo and cow livestock products	0.25	0.31	0.22	0.00
a_017	Pig farming products	0.85	0.74	0.00	0.00
a_018	Poultry products	0.70	0.54	0.01	0.00
a_019	Other remaining livestock products	0.12	0.15	0.08	0.03
a_020	Agricultural services	0.31	0.56	0.00	0.00
a_021	Hunting and trapping products and related services	0.01	0.03	0.02	0.01
a_022	Other agricultural products not yet classified	0.02	0.03	0.02	0.01
	Forestry	0.32	0.63	0.82	0.08

Sectors		Share of total			
		Gross output	*GDP*	*Import*	*Export*
a_023	Forest planting and care products and forestry seedlings	0.04	0.08	0.00	0.00
a_024	Harvested wood	0.16	0.30	0.79	0.00
a_025	Other exploited and collected forest products except wood	0.10	0.23	0.03	0.08
a_026	Forestry services	0.01	0.03	0.00	0.00
	Fisheries	2.44	2.92	0.07	0.04
a_027	Marine aquatic products	0.91	1.33	0.01	0.00
a_028	Inland exploited aquatic products	0.08	0.13	0.02	0.01
a_029	Marine aquaculture products	0.10	0.10	0.04	0.01
a_030	Catfish	0.16	0.14	0.00	0.00
a_031	White leg shrimp, black tiger shrimp	0.56	0.53	0.01	0.01
a_032	Other inland aquaculture products	0.54	0.58	0.00	0.00
a_033	Domestic aquatic breeds	0.10	0.12	0.00	0.00
Mining, Industry and Construction		63,84	40.25	91.06	91.46
	Mining and Quarrying	1.94	3.29	3.31	1.01
a_034	Hard coal and lignite	0.49	0.47	1.28	0.06
a_035	Crude oil extraction	0.43	0.92	1.39	0.78
a_036	Gaseous or liquefied natural gas	0.61	1.35	0.00	0.00
a_037	Metal ores and metal concentrates	0.06	0.10	0.46	0.03
a_038	Stone, sand, gravel, clay	0.25	0.31	0.07	0.09
a_039	Mining products not yet classified	0.03	0.04	0.09	0.05
a_040	Mining support services	0.06	0.10	0.02	0.00
	Food Manufacturing	9.52	4.56	4.41	8.43
a_041	Products processed and preserved meat and meat products	1.77	0.56	0.45	0.23
a_042	Livestock and poultry slaughtering services	0.01	0.01	0.00	0.00
a_043	Aquatic products and processed and preserved aquatic products	1.93	0.62	0.70	3.20
a_044	Processed vegetables and fruits	0.51	0.22	0.34	1.58
a_045	Processed animal and vegetable oils and fats	0.18	0.10	1.04	0.11
a_046	Milk and dairy products	0.39	0.27	0.36	0.11
a_047	Milling products and flour production	1.11	0.38	0.13	1.40
a_048	Sugar, honey	0.15	0.08	0.11	0.01
a_049	Cocoa, chocolate and confectionery; bakery products from flour	0.24	0.17	0.20	0.22
a_050	Dishes, prepared foods	0.10	0.10	0.00	0.05
a_051	Coffee	0.22	0.15	0.02	0.50
a_052	Tea (tea)	0.04	0.02	0.01	0.05

Sectors		Share of total			
		Gross output	***GDP***	***Import***	***Export***
a_053	Other remaining foods (pasta, noodles and similar products; other foods not yet classified...)	0.48	0.29	0.55	0.49
a_054	Feed for livestock, poultry and aquatic products	1.41	0.61	0.19	0.14
a_055	Wine of all kinds	0.07	0.06	0.05	0.03
a_056	Beer	0.36	0.43	0.16	0.12
a_057	Non-alcoholic drinks, mineral water, purified water	0.39	0.39	0.07	0.06
a_058	Tobacco products	0.17	0.10	0.04	0.15
	Textile and apparel	7.80	6.18	7.63	21.43
a_059	Yarn, woven fabric and finished textile products	1.41	0.87	2.71	1.44
a_060	Other textile products	0.60	0.41	3.31	1.65
a_061	All types of clothing include clothing made of woven, knitted, crocheted fabrics, leather, synthetic leather, and fur	3.71	3.24	0.32	10.64
a_062	Leather, pre-processed; suitcases, handbags, saddle cushions; Preliminary and dyed fur skins	0.29	0.20	0.77	1.55
a_063	Shoes and sandals	1.79	1.46	0.52	6.15
	Wood and paper	2.41	1.52	1.70	1.75
a_064	Wood processing products and products from wood, bamboo (except beds, cabinets, tables, chairs); of straw, thatch and plaiting materials	1.07	0.68	0.61	1.29
a_065	Paper and paper products	1.01	0.58	1.08	0.45
a_066	Printing and copying services of all types	0.33	0.25	0.01	0.01
	Coal and fuels	0.98	0.62	4.66	0.79
a_067	Coke	0.04	0.03	0.11	0.01
a_068	Fuel oil and gasoline; lubricants	0.92	0.57	4.42	0.78
a_069	Remaining petroleum products	0.02	0.02	0.13	0.00
	Chemicals	4.17	2.54	13.52	4.55
a_070	Basic chemicals	0.23	0.14	2.28	0.57
a_071	Fertilizers and nitrogen compounds	0.35	0.17	0.42	0.09
a_072	Plastic and synthetic rubber in primary forms	0.24	0.14	3.57	0.89
a_073	Pesticides and other chemical products used in agriculture	0.14	0.09	0.32	0.05
a_074	Other chemical products; synthetic fibres, artificial fibres	0.83	0.49	2.46	0.86
a_075	Medicines of all kinds; Pharmaceutical chemistry and medicinal materials	0.30	0.25	1.41	0.10
a_076	Products from rubber	0.41	0.27	0.56	0.70
a_077	Products from plastic	1.67	1.00	2.50	1.29
	Non-metallic minerals	1.84	1.31	0.98	1.31

Sectors		Share of total			
		Gross output	***GDP***	***Import***	***Export***
a_078	Glass and products from glass	0.09	0.07	0.48	0.30
a_079	Refractory products; Construction material products from clay; Other ceramic products	0.46	0.37	0.24	0.20
a_080	Cement of all kinds	0.58	0.39	0.01	0.51
a_081	Uncategorized non-metallic mineral products (except cement; bricks, tiles, paving stones and baked clay construction products)	0.71	0.48	0.24	0.29
	Metals	3.18	1.68	6.43	2.66
a_082	Cast iron, iron and steel products	2.67	1.43	3.78	1.79
a_083	Non-ferrous metal products, precious metals and metal casting services	0.51	0.25	2.64	0.87
	Machinery, equipment and other manufacturing	22.79	9.63	48.24	49.41
a_084	Prefabricated metal products (except machinery and equipment)	2.93	1.27	2.62	1.59
a_085	Electronic components products; computer and computer peripheral equipment, communication equipment	10.58	3.06	25.18	31.23
a_086	Consumer electronic products	1.42	0.53	0.98	2.71
a_087	Measurement, testing, navigation and control equipment; clock; radiation equipment, medical electronic equipment, electrotherapy; optical equipment and instruments; tape, magnetic and optical disks	0.14	0.10	0.92	0.54
a_088	Motors, generators, power transformers, power distribution and control equipment	0.34	0.21	2.40	1.31
a_089	Batteries and accumulators	0.53	0.24	0.74	0.60
a_090	Wires and wiring equipment	0.73	0.32	1.37	1.85
a_091	Electrical lighting equipment	0.07	0.04	0.16	0.09
a_092	Household electrical appliances (family refrigerators, dishwashers, washing machines, vacuum cleaners, etc.)	0.33	0.19	0.46	0.47
a_093	Other electrical equipment	0.08	0.05	1.19	0.34
a_094	Common machine	0.30	0.17	2.72	0.88
a_095	Specialized machine	0.23	0.14	3.92	0.94
a_096	Cars of all kinds	0.39	0.13	1.34	0.02
a_097	Remaining motor vehicles (except cars of all kinds), car bodies and other motor vehicles, trailers and semi-trailers; spare parts and accessories for cars and other motor vehicles	1.05	0.61	1.06	0.60
a_098	Ships and boats; Locomotives, trams and rolling stock; aircraft, spacecraft and related machinery, combat vehicles used in the military	0.18	0.11	0.35	0.46
a_099	Motorcycles, motorbikes	0.75	0.44	0.21	0.38
a_100	Other means of transport remain	0.19	0.11	0.07	0.17
a_101	Bed, wardrobe, table, chair	1.61	1.13	0.21	3.30

Sectors		Share of total			
		Gross output	*GDP*	*Import*	*Export*
a_102	Jewelry, imitation jewellery and related details; musical instrument; sports instruments; toys, games	0.23	0.16	0.31	0.76
a_103	Medical, dental, orthopaedic and rehabilitation equipment and instruments	0.15	0.12	0.50	0.29
a_104	Other processing and manufacturing products not yet classified	0.24	0.21	1.52	0.87
a_105	Repair, maintenance and installation services of machinery and equipment	0.33	0.29	0.00	0.00
	Electricity, gas, steam, hot water and air conditioning supply	0.67	1.25	0.00	0.00
a_106	Hydropower	0.44	1.05	NA	NA
a_107	Coal thermal power	0.76	0.90	NA	NA
a_108	Gas thermal power	0.31	0.35	NA	NA
a_109	Wind electricity	0.02	0.04	NA	NA
a_110	Solar power	0.04	0.08	NA	NA
a_111	Other electricity	0.00	0.01	NA	NA
a_112	Electricity transmission service	0.04	0.08	0.00	0.00
a_113	Electricity distribution service	0.37	0.72	0.00	0.00
a_114	Gas, gas fuel distribution services by pipeline	0.05	0.09	0.00	0.00
a_115	Steam, hot water, ice; steam, hot water, ice and air conditioning distribution services by pipes	0.04	0.07	0.00	0.00
a_116	Natural water is exploited	0.17	0.29	0.00	0.00
	Water supply; sewerage, waste management and remediation activities	0.19	0.28	0.08	0.00
a_117	Drainage and wastewater treatment services	0.04	0.06	0.00	0.00
a_118	Waste collection, treatment and destruction services; scrap recycling	0.15	0.21	0.00	0.00
a_119	Pollution treatment services and other waste management activities	0.00	0.01	0.08	0.00
	Construction	8.34	7.39	0.10	0.12
a_120	House to live in	3.02	2.61	0.00	0.07
a_121	Other types of houses and house construction services	1.56	1.35	0.06	0.00
a_122	Railways, railway construction services	0.95	0.72	0.03	0.00
a_123	Road works, road construction services	1.29	1.02	0.00	0.02
a_124	Public works and construction services of public works and other civil engineering works	1.10	0.83	0.01	0.00
a_125	Specialized construction services	0.42	0.86	0.00	0.03
Services		25.25	45.08	3.72	5.54
a_126	Services selling cars, motorbikes, motorbikes and other motor vehicles	0.42	0.86	0.00	0.03
a_127	Car, motorbike, motorbike and other motor vehicle repair services	0.31	0.51	0.00	0.00

Sectors		Share of total			
		Gross output	***GDP***	***Import***	***Export***
a_128	Commercial services	4.36	8.84	0.00	0.13
a_129	Railway passenger transport service	0.01	0.02	0.36	0.00
a_130	Railway freight transport services	0.02	0.03	0.00	1.03
a_131	Bus transport services, other road passenger transport services	0.30	0.43	0.23	0.00
a_132	Freight transport services by road, pipeline transport services	0.05	0.07	0.15	0.00
a_133	Waterway passenger transport service	0.31	0.37	0.35	0.78
a_134	Waterway cargo transportation services	0.45	0.25	0.06	1.13
a_135	Air passenger transportation services	0.04	0.02	0.08	0.15
a_136	Air cargo transportation services	1.63	2.77	0.00	0.01
a_137	Warehousing services and transportation support activities	0.11	0.16	0.10	0.00
a_138	Postal and delivery services	0.36	0.67	0.11	0.30
a_139	Lodging	2.25	2.41	0.06	0.20
a_140	Food service	0.09	0.07	0.23	0.02
a_141	Publishing activities	0.12	0.15	0.00	0.12
a_142	Film services, television program production, recording and music publishing	0.16	0.30	0.00	0.03
a_143	Radio and television broadcasting services	1.81	2.75	0.00	0.01
a_144	Telecommunication services	0.38	0.71	0.00	0.00
a_145	Computer programming services, consulting services and other activities related to computers	0.08	0.16	0.06	0.05
a_146	Other information services	1.80	3.94	0.00	0.07
a_147	Financial services (except insurance and social insurance)	0.21	0.41	0.14	0.00
a_148	Life insurance and life reinsurance services	0.09	0.17	0.48	0.03
a_149	Non-life insurance and non-life reinsurance services	0.10	0.21	0.04	0.03
a_150	Other financial services	1.68	4.23	0.56	0.02
a_151	Real estate business services	0.08	0.16	0.00	0.50
a_152	Legal, accounting and auditing services	0.17	0.32	0.01	0.00
a_153	Services of office headquarters; management consulting services	0.59	1.05	0.00	0.01
a_154	Architectural services; technical testing and analysis	0.10	0.18	0.39	0.00
a_155	Scientific research and technology development services	0.45	0.48	0.00	0.16
a_156	Advertising and market research services	0.17	0.23	0.00	0.00
a_157	Other professional, scientific and technological services	0.01	0.02	0.00	0.00
a_158	Veterinary services	0.22	0.38	0.08	0.00
a_159	Machinery and equipment rental service (without operator); rental of personal and household items; leasing non-financial intangible assets	0.10	0.19	0.00	0.06
a_160	Labour and employment services	0.28	0.49	0.00	0.00

Sectors		Share of total			
		Gross output	***GDP***	***Import***	***Export***
a_161	Services of travel agencies, tour businesses and support services, related to promotion and organization of tours	0.07	0.17	0.03	0.00
a_162	Investigation services ensure safety	0.07	0.14	0.00	0.17
a_163	House, construction and landscape cleaning services	0.20	0.25	0.00	0.00
a_164	Administrative services, office support and other business support activities	1.15	2.38	0.02	0.00
a_165	Services of the Communist Party, socio-political organizations, state management, national security and defence and compulsory social security	1.46	3.17	0.00	0.01
a_166	Education and training (except college, university and postgraduate training)	0.39	0.84	0.08	0.00
a_167	College, university and postgraduate training services	1.69	2.39	0.07	0.01
a_168	Health services	0.02	0.03	0.00	0.39
a_169	Centralized care and nursing services	0.00	0.01	0.00	0.00
a_170	Social support services are not centralized	0.03	0.05	0.03	0.00
a_171	Creative, artistic and entertainment services	0.02	0.03	0.00	0.04
a_172	Services of libraries, archives, museums and other cultural activities	0.15	0.22	0.00	0.00
a_173	Lottery, betting and gambling services	0.22	0.42	0.00	0.00
a_174	Sports, entertainment and recreation services	0.10	0.21	0.00	0.00
a_175	Services of other associations and organizations	0.09	0.15	0.00	0.00
a_176	Computer repair service, personal and household appliances	0.22	0.41	0.00	0.04
a_177	Other personal services	0.05	0.15	0.00	0.01
a_178	Household chores service for households	0.00	0.00	0.00	0.00

Source: 2019 ESAM. Note that 1) GDP is measured at basic costs (including factor costs and production tax). 2) columns 1 and 2 refer to industries while columns 3 and 4 refer to products. A product is not exclusively produced by its matching industry as the ST reports supply of by-products. 3) Electric power subproducts a_106 - a_111 do not exist but their generating industries do.

Table 4 provides a detailed overview of the indirect tax collection shares by sectors within the 2019 ESAM.

Agriculture, Forestry, and Fisheries Sector

The Agriculture, Forestry, and Fisheries sector represent a relatively modest contribution to total indirect taxes. Overall, this sector accounts for 5.2% of total activity tax, 2.9% of total sales tax, and 3.8% of total import tax. Within this sector, Crop Production contributes 2.1% to activity tax and 0.9% to sales tax, while accounting for 3.0% of import tax. Notably, the Fisheries sub-sector exhibits the highest activity tax share within the group at 1.8% and a sales tax share of 1.3%. Specific products, such as Corn and other grain food products (a_002), account for 0.9% of import tax, and Fruit tree products (a_009) stand at 0.5%.

Industry and Construction Sector

The Industry and Construction sector stands out with the largest contribution to overall indirect taxes, particularly in sales and import taxes. This sector accounts for 36.1% of total activity tax,

79.5% of total sales tax, and an overwhelming 96.1% of total import tax. Within this sector, Mining and Quarrying contributes 5.7% to activity tax, with Hard coal and lignite (a_034) contributing 3.1% and Crude oil extraction (a_035) contributing 1.4%. Manufacturing contributes 2.9% to activity tax and 10.8% to sales tax. Notably, Textile and apparel accounts for 14.8% of import tax, and Chemicals stands at 12.0%. Other significant products with high import tax shares include Products from plastic (a_077) at 5.0%, Prefabricated metal products (a_084) at 5.0%, and electronic components products; Computer and computer peripheral equipment, Communication equipment (a_085) at 6.9%. For the energy sector, Fuel oil and gasoline; lubricants (a_068) have an import tax share of 2.4%, while Electricity, gas, steam, hot water and air conditioning supply exhibits an activity tax share of 6.0% and a sales tax share of 4.5%.

Services Sector

While making substantial contributions to activity and sales taxes, Services as a sector shows a very low proportion in import taxes. The services sector (as a whole) accounts for 57.2% of total activity tax and 17.7% of total sales tax, but only 0.0% of total import tax. Commercial services (a_128) represent the largest sub-sectoral contribution to activity tax at 14.5%. Real estate business services (a_151) also show a high activity tax share of 8.2%. Regarding sales tax, Lodging (a_139) contributes 0.6% and Food Service (a_140) contributes 0.9%. The low share of import tax for the services sector indicates its limited direct reliance on imported goods and a focus primarily on domestic value added and consumption.

Table 4: Sectoral shares of indirect tax collection, ESAM 2019

Unit: %

Sectors		**Activity tax**	**Sectors**		**Sales tax**	**Import tax**
Total		**100.00**	**Total**		**100.0**	**100.0**
I. Agriculture, Forestry and Fisheries		***5.24***	***I. Agriculture, Forestry and Fisheries***		***2.88***	***3.84***
Crop Production		2.10	Crop Production		0.85	3.00
a_001	Paddy	0.53	c_001	Paddy	0.02	0.05
a_002	Corn and other grain food products	0.05	c_002	Corn and other grain food products	0.15	0.88
a_003	Root crop products contain starch	0.07	c_003	Root crop products contain starch	0.05	0.06
a_004	Oil-bearing plant products	0.05	c_004	Oil-bearing plant products	0.05	0.13
a_005	Fresh sugar cane	0.03	c_005	Fresh sugar cane	0.00	0.00
a_006	Vegetables, beans of all kinds	0.33	c_006	Vegetables, beans of all kinds	0.04	0.28
a_007	Annual flower products	0.07	c_007	Annual flower products	0.02	0.02
a_008	Other remaining annual crop products	0.09	c_008	Other remaining annual crop products	0.13	0.31
a_009	Fruit tree products	0.30	c_009	Fruit tree products	0.09	0.47
a_010	Dried cashews	0.02	c_010	Dried cashews	0.08	0.43
a_011	Pepper seeds	0.06	c_011	Pepper seeds	0.01	0.09
a_012	Dried latex	0.21	c_012	Dried latex	0.08	0.12

Sectors		Activity tax	Sectors		Sales tax	Import tax
a_013	Coffee beans	0.26	c_013	Coffee beans	0.07	0.08
a_014	Fresh tea buds, fresh tea leaves	0.02	c_014	Fresh tea buds, fresh tea leaves	0.01	0.03
a_015	Other remaining perennial plant products	0.01	c_015	Other remaining perennial plant products	0.05	0.05
Livestock		1.09	Livestock		0.34	0.61
a_016	Buffalo and cow livestock products	0.02	c_016	Buffalo and cow livestock products	0.08	0.20
a_017	Pig farming products	0.33	c_017	Pig farming products	0.13	0.00
a_018	Poultry products	0.32	c_018	Poultry products	0.05	0.01
a_019	Other remaining livestock products	0.08	c_019	Other remaining livestock products	0.01	0.38
a_020	Agricultural services	0.31	c_020	Agricultural services	0.05	0.00
a_021	Hunting and trapping products and related services	0.02	c_021	Hunting and trapping products and related services	0.03	0.00
a_022	Other agricultural products have not been classified yet	0.01	c_022	Other agricultural products have not been classified yet	0.00	0.01
Forestry		0.30	Forestry		0.39	0.10
a_023	Forest planting and care products and forestry seedlings	0.01	c_023	Forest planting and care products and forestry seedlings	0.01	0.00
a_024	Harvested wood	0.25	c_024	Harvested wood	0.18	0.05
a_025	Other exploited and collected forest products except wood	0.03	c_025	Other exploited and collected forest products except wood	0.20	0.05
a_026	Forestry services	0.01	c_026	Forestry services	0.00	0.00
Fisheries		1.75	Fisheries		1.29	0.13
a_027	Marine aquatic products	0.50	c_027	Marine aquatic products	0.83	0.05
a_028	Inland exploited aquatic products	0.04	c_028	Inland exploited aquatic products	0.05	0.08
a_029	Marine aquaculture products	0.08	c_029	Marine aquaculture products	0.08	0.00
a_030	Catfish	0.40	c_030	Catfish	0.08	0.00
a_031	White leg shrimp, Black tiger shrimp	0.30	c_031	White leg shrimp, Black tiger shrimp	0.07	0.00
a_032	Other inland aquaculture products	0.32	c_032	Other inland aquaculture products	0.09	0.00
a_033	Domestic aquatic breeds	0.12	c_033	Domestic aquatic breeds	0.09	0.00
II. Industry and Construction		***36.07***	***II. Industry and Construction***		***79.46***	***96.12***
Mining and Quarrying		5.65	Mining and Quarrying		7.43	1.18
a_034	Hard coal and lignite	3.07	c_034	Hard coal and lignite	2.00	0.44
a_035	Crude oil extraction	1.40	c_035	Crude oil extraction	2.51	0.47

Sectors		Activity tax	Sectors		Sales tax	Import tax
a_036	Gaseous or liquefied natural gas	0.51	c_036	Gaseous or liquefied natural gas	1.26	0.00
a_037	Metal ores and metal concentrates	0.12	c_037	Metal ores and metal concentrates	0.74	0.20
a_038	Stone, sand, gravel, clay	0.51	c_038	Stone, sand, gravel, clay	0.78	0.02
a_039	Mining products have not been classified yet	0.03	c_039	Mining products have not been classified yet	0.10	0.06
a_040	Mining support services	0.00	c_040	Mining support services	0.04	0.00
Manufacturing		2.87	Manufacturing		10.82	8.99
a_041	Products processed and preserved meat and meat products	0.11	c_041	Products processed and preserved meat and meat products	0.76	1.13
a_042	Livestock and poultry slaughtering services	0.02	c_042	Livestock and poultry slaughtering services	0.15	0.00
a_043	Aquatic products and processed and preserved aquatic products	0.46	c_043	Aquatic products and processed and preserved aquatic products	1.85	1.10
a_044	Processed vegetables and fruits	0.04	c_044	Processed vegetables and fruits	0.07	0.85
a_045	Processed animal and vegetable oils and fats	0.05	c_045	Processed animal and vegetable oils and fats	0.23	1.74
a_046	Milk and dairy products	0.44	c_046	Milk and dairy products	1.46	0.18
a_047	Milling products and flour production	0.13	c_047	Milling products and flour production	0.23	0.48
a_048	Sugar, Honey	0.01	c_048	Sugar, Honey	0.07	1.24
a_049	Cocoa, chocolate and confectionery; bakery products from flour	0.12	c_049	Cocoa, chocolate and confectionery; bakery products from flour	0.21	0.41
a_050	Dishes, prepared foods	0.04	c_050	Dishes, prepared foods	0.20	0.00
a_051	Coffee	0.06	c_051	Coffee	0.05	0.01
a_052	Tea (tea)	0.01	c_052	Tea (tea)	0.01	0.02
a_053	Other remaining foods (pasta, noodles and similar products; other foods not yet classified...)	0.10	c_053	Other remaining foods (pasta, noodles and similar products; other foods not yet classified...)	0.34	1.11
a_054	Feed for livestock, poultry and aquatic products	0.05	c_054	Feed for livestock, poultry and aquatic products	0.13	0.08
a_055	Wine of all kinds	0.11	c_055	Wine of all kinds	0.47	0.12
a_056	Beer	0.76	c_056	Beer	2.22	0.07
a_057	Non-alcoholic drinks, mineral water, purified water	0.29	c_057	Non-alcoholic drinks, mineral water, purified water	0.82	0.41
a_058	Tobacco products	0.06	c_058	Tobacco products	1.55	0.03
Textile and apparel		4.26	Textile and apparel		3.37	14.75
a_059	Yarn, woven fabric and finished textile products	0.15	c_059	Yarn, woven fabric and finished textile products	0.83	3.90

Sectors		Activity tax	Sectors		Sales tax	Import tax
a_060	Other textile products	0.12	c_060	Other textile products	0.81	7.25
a_061	All types of clothing include clothing made of woven, knitted, crocheted fabrics, leather, synthetic leather, and fur.	1.51	c_061	All types of clothing include clothing made of woven, knitted, crocheted fabrics, leather, synthetic leather, and fur.	0.34	1.51
a_062	Leather, pre-processed; suitcases, handbags, saddle cushions; Preliminary and dyed fur skins	0.25	c_062	Leather, pre-processed; suitcases, handbags, saddle cushions; Preliminary and dyed fur skins	0.15	1.07
a_063	Shoes and sandals	2.23	c_063	Shoes and sandals	1.24	1.02
Wood and paper		0.34	Wood and paper		1.35	2.53
a_064	Wood processing products and products from wood, bamboo (except beds, cabinets, tables, chairs); of straw, thatch and plaiting materials	0.14	c_064	Wood processing products and products from wood, bamboo (except beds, cabinets, tables, chairs); of straw, thatch and plaiting materials	0.47	0.42
a_065	Paper and paper products	0.14	c_065	Paper and paper products	0.54	2.08
a_066	Printing and copying services of all types	0.06	c_066	Printing and copying services of all types	0.33	0.03
Coal and fuels		1.17	Coal and fuels		11.70	2.41
a_067	Coke	0.02	c_067	Coke	0.34	0.04
a_068	Fuel oil and gasoline; lubricants	1.15	c_068	Fuel oil and gasoline; lubricants	11.33	2.37
a_069	Remaining petroleum products	0.01	c_069	Remaining petroleum products	0.04	0.00
Chemicals		1.97	Chemicals		4.67	12.04
a_070	Basic chemicals	0.22	c_070	Basic chemicals	0.70	1.06
a_071	Fertilizers and nitrogen compounds	0.17	c_071	Fertilizers and nitrogen compounds	0.16	0.22
a_072	Plastic and synthetic rubber in primary forms	0.11	c_072	Plastic and synthetic rubber in primary forms	0.89	1.52
a_073	Pesticides and other chemical products used in agriculture	0.10	c_073	Pesticides and other chemical products used in agriculture	0.11	0.11
a_074	Other chemical products; synthetic fibres, artificial fibres	0.48	c_074	Other chemical products; synthetic fibres, artificial fibres	1.05	2.65
a_075	Medicines of all kinds; Pharmaceutical chemistry and medicinal materials	0.15	c_075	Medicines of all kinds; Pharmaceutical chemistry and medicinal materials	0.31	0.57
a_076	Products from rubber	0.28	c_076	Products from rubber	0.37	0.94
a_077	Products from plastic	0.47	c_077	Products from plastic	1.09	4.95
Non-metallic minerals		2.12	Non-metallic minerals		1.18	2.98

Sectors		Activity tax	Sectors		Sales tax	Import tax
a_078	Glass and products from glass	0.06	c_078	Glass and products from glass	0.18	1.77
a_079	Refractory products; Construction material products from clay; Other ceramic products	0.27	c_079	Refractory products; Construction material products from clay; Other ceramic products	0.18	0.59
a_080	Cement of all kinds	1.22	c_080	Cement of all kinds	0.53	0.04
a_081	Uncategorized non-metallic mineral products (except cement; bricks, tiles, paving stones and baked clay construction products)	0.57	c_081	Uncategorized non-metallic mineral products (except cement; bricks, tiles, paving stones and baked clay construction products)	0.29	0.58
Metals		0.79	Metals		2.27	3.21
a_082	Cast iron, iron and steel products	0.63	c_082	Cast iron, iron and steel products	1.60	1.82
a_083	Non-ferrous metal products, precious metals and metal casting services	0.16	c_083	Non-ferrous metal products, precious metals and metal casting services	0.67	1.39
Machinery, equipment and other manufacturing		8.15	Machinery, equipment and other manufacturing		27.82	48.02
a_084	Prefabricated metal products (except machinery and equipment)	0.84	c_084	Prefabricated metal products (except machinery and equipment)	1.14	5.04
a_085	Electronic components products; Computer and computer peripheral equipment, Communication equipment	1.22	c_085	Electronic components products; Computer and computer peripheral equipment, Communication equipment	1.20	6.93
a_086	Consumer electronic products	0.30	c_086	Consumer electronic products	1.06	1.88
a_087	Measurement, testing, navigation and control equipment; clock; radiation equipment, medical electronic equipment, electrotherapy; optical equipment and instruments; tape, magnetic and optical disks	0.12	c_087	Measurement, testing, navigation and control equipment; clock; radiation equipment, medical electronic equipment, electrotherapy; optical equipment and instruments; tape, magnetic and optical disks	0.60	1.99
a_088	Motors, generators, power transformers, power distribution and control equipment	0.57	c_088	Motors, generators, power transformers, power distribution and control equipment	0.77	5.28
a_089	Batteries and accumulators	0.06	c_089	Batteries and accumulators	0.35	0.66
a_090	Wires and wiring equipment	0.18	c_090	Wires and wiring equipment	0.61	1.73

Sectors		Activity tax	Sectors		Sales tax	Import tax
a_091	Electrical lighting equipment	0.04	c_091	Electrical lighting equipment	0.07	0.42
a_092	Household electrical appliances (family refrigerators, dishwashers, washing machines, vacuum cleaners, etc.)	0.16	c_092	Household electrical appliances (family refrigerators, dishwashers, washing machines, vacuum cleaners, etc.)	1.39	1.59
a_093	Other electrical equipment	0.12	c_093	Other electrical equipment	0.41	0.57
a_094	Common machine	0.30	c_094	Common machine	1.17	3.77
a_095	Specialized machine	0.25	c_095	Specialized machine	0.83	1.32
a_096	Cars of all kinds	1.51	c_096	Cars of all kinds	9.42	8.51
a_097	Remaining motor vehicles (except cars of all kinds), car bodies and other motor vehicles, trailers and semi-trailers; spare parts and accessories for cars and other motor vehicles	0.36	c_097	Remaining motor vehicles (except cars of all kinds), car bodies and other motor vehicles, trailers and semi-trailers; spare parts and accessories for cars and other motor vehicles	3.72	2.60
a_098	Ships and boats; locomotives, trams and rolling stock; aircraft, spacecraft and related machinery, combat vehicles used in the military	0.08	c_098	Ships and boats; locomotives, trams and rolling stock; aircraft, spacecraft and related machinery, combat vehicles used in the military	0.28	0.10
a_099	Motorcycles, motorbikes	0.45	c_099	Motorcycles, motorbikes	2.15	1.92
a_100	Other means of transport remain	0.02	c_100	Other means of transport remain	0.18	0.58
a_101	Bed, wardrobe, table, chair	1.05	c_101	Bed, wardrobe, table, chair	0.55	0.86
a_102	Jewelry, imitation jewellery and related details; musical instrument; sports instruments; toys, games	0.12	c_102	Jewelry, imitation jewellery and related details; musical instrument; sports instruments; toys, games	0.76	0.33
a_103	Medical, dental, orthopaedic and rehabilitation equipment and instruments	0.11	c_103	Medical, dental, orthopaedic and rehabilitation equipment and instruments	0.13	0.16
a_104	Other processing and manufacturing products not yet classified	0.04	c_104	Other processing and manufacturing products not yet classified	1.00	1.77
a_105	Repair, maintenance and installation services of machinery and equipment	0.25	c_105	Repair, maintenance and installation services of machinery and equipment	0.03	0.00
Electricity, gas, steam, hot water and air conditioning supply		5.97	Electricity, gas, steam, hot water and air conditioning supply		4.48	0.01
a_106	Hydropower	2.32				

Sectors		Activity tax	Sectors		Sales tax	Import tax
a_107	Coal thermal power	1.60				
a_108	Gas thermal power	0.61				
a_109	Wind electricity	0.08				
a_110	Solar power	0.10				
a_111	Other electricity	0.01	c_106	Electricity	3.75	0.01
a_112	Electricity transmission service	0.26	c_107	Electricity transmission service	0.00	0.00
a_113	Electricity distribution service	0.53	c_108	Electricity distribution service	0.00	0.00
a_114	Gas, gas fuel distribution services by pipeline	0.07	c_109	Gas, gas fuel distribution services by pipeline	0.32	0.00
a_115	Steam, hot water, ice; Steam, hot water, ice and air conditioning distribution services by pipes	0.14	c_110	Steam, hot water, ice; Steam, hot water, ice and air conditioning distribution services by pipes	0.00	0.00
a_116	Natural water is exploited	0.28	c_111	Natural water is exploited	0.41	0.00
Water supply; sewerage, waste management and remediation activities		0.13	Water supply; sewerage, waste management and remediation activities		0.19	0.00
a_117	Drainage and wastewater treatment services	0.02	c_112	Drainage and wastewater treatment services	0.02	0.00
a_118	Waste collection, treatment and destruction services; scrap recycling	0.10	c_113	Waste collection, treatment and destruction services; scrap recycling	0.17	0.00
a_119	Pollution treatment services and other waste management activities	0.01	c_114	Pollution treatment services and other waste management activities	0.00	0.00
Construction		2.66	Construction		4.18	0.00
a_120	House to live in	0.79	c_115	House to live in	1.58	0.00
a_121	Other types of houses and house construction services	0.52	c_116	Other types of houses and house construction services	0.57	0.00
a_122	Railways, railway construction services	0.49	c_117	Railways, railway construction services	0.01	0.00
a_123	Road works, road construction services	0.46	c_118	Road works, road construction services	1.38	0.00
a_124	Public works and construction services of public works and other civil engineering works	0.40	c_119	Public works and construction services of public works and other civil engineering works	0.56	0.00
a_125	Specialized construction services	1.71	c_120	Specialized construction services	0.08	0.00
III. Services		***57.17***	***III. Services***		***17.66***	***0.04***
a_126	Services selling cars, motorbikes, motorbikes and other motor vehicles	1.71	c_121	Services selling cars, motorbikes, motorbikes and other motor vehicles	0.38	0.00

Sectors		Activity tax	Sectors		Sales tax	Import tax
a_127	Car, motorbike, motorbike and other motor vehicle repair services	1.03	c_122	Car, motorbike, motorbike and other motor vehicle repair services	0.55	0.00
a_128	Commercial services	14.45	c_123	Commercial services	0.00	0.00
a_129	Railway passenger transport service	0.07	c_124	Railway passenger transport service	0.05	0.00
a_130	Railway freight transport services	0.08	c_125	Railway freight transport services	0.00	0.00
a_131	Bus transport services, other road passenger transport services	0.84	c_126	Bus transport services, other road passenger transport services	0.28	0.00
a_132	Freight transport services by road, pipeline transport services	0.07	c_127	Freight transport services by road, pipeline transport services	0.00	0.00
a_133	Waterway passenger transport service	0.29	c_128	Waterway passenger transport service	0.02	0.00
a_134	Waterway cargo transportation services	0.82	c_129	Waterway cargo transportation services	0.00	0.00
a_135	Air passenger transportation services	0.02	c_130	Air passenger transportation services	0.41	0.00
a_136	Air cargo transportation services	1.63	c_131	Air cargo transportation services	0.00	0.00
a_137	Warehousing services and transportation support activities	0.24	c_132	Warehousing services and transportation support activities	1.21	0.00
a_138	Postal and delivery services	0.63	c_133	Postal and delivery services	0.02	0.00
a_139	Lodging	4.76	c_134	Lodging	0.56	0.00
a_140	Food service	0.11	c_135	Food service	0.93	0.00
a_141	Publishing activities	0.12	c_136	Publishing activities	0.09	0.04
a_142	Film services, television program production, recording and music publishing	0.47	c_137	Film services, television program production, recording and music publishing	0.06	0.00
a_143	Radio and television broadcasting services	1.56	c_138	Radio and television broadcasting services	0.06	0.00
a_144	Telecommunication services	0.42	c_139	Telecommunication services	2.63	0.00
a_145	Computer programming services, consulting services and other activities related to computers	0.03	c_140	Computer programming services, consulting services and other activities related to computers	0.25	0.00
a_146	Other information services	3.98	c_141	Other information services	0.07	0.00
a_147	Financial services (except insurance and social insurance)	0.18	c_142	Financial services (except insurance and social insurance)	1.00	0.00

Sectors		Activity tax	Sectors		Sales tax	Import tax
a_148	Life insurance and life reinsurance services	0.22	c_143	Life insurance and life reinsurance services	0.23	0.00
a_149	Non-life insurance and non-life reinsurance services	0.19	c_144	Non-life insurance and non-life reinsurance services	0.14	0.00
a_150	Other financial services	8.24	c_145	Other financial services	0.03	0.00
a_151	Real estate business services	0.09	c_146	Real estate business services	1.71	0.00
a_152	Legal, accounting and auditing services	0.16	c_147	Legal, accounting and auditing services	0.03	0.00
a_153	Services of office headquarters; management consulting services	1.42	c_148	Services of office headquarters; management consulting services	0.27	0.00
a_154	Architectural services; technical testing and analysis	0.25	c_149	Architectural services; technical testing and analysis	0.75	0.00
a_155	Scientific research and technology development services	0.02	c_150	Scientific research and technology development services	0.24	0.00
a_156	Advertising and market research services	0.20	c_151	Advertising and market research services	0.43	0.00
a_157	Other professional, scientific and technological services	0.02	c_152	Other professional, scientific and technological services	0.12	0.00
a_158	Veterinary services	0.65	c_153	Veterinary services	0.00	0.00
a_159	Machinery and equipment rental service (without operator); rental of personal and household items; leasing non-financial intangible assets	0.06	c_154	Machinery and equipment rental service (without operator); rental of personal and household items; leasing non-financial intangible assets	0.22	0.00
a_160	Labour and employment services	0.83	c_155	Labour and employment services	0.09	0.00
a_161	Services of travel agencies, tour businesses and support services, related to promotion and organization of tours	0.05	c_156	Services of travel agencies, tour businesses and support services, related to promotion and organization of tours	0.19	0.00
a_162	Investigation services ensure safety	0.24	c_157	Investigation services ensure safety	0.00	0.00
a_163	House, construction and landscape cleaning services	0.68	c_158	House, construction and landscape cleaning services	0.01	0.00
a_164	Administrative services, office support and other business support activities	2.73	c_159	Administrative services, office support and other business support activities	0.02	0.00

Sectors		Activity tax	Sectors		Sales tax	Import tax
a_165	Services of the Communist Party, socio-political organizations, state management, national security and defence and compulsory social security	1.81	c_160	Services of the Communist Party, socio-political organizations, state management, national security and defence and compulsory social security	0.10	0.00
a_166	Education and training (except college, university and postgraduate training)	0.20	c_161	Education and training (except college, university and postgraduate training)	0.43	0.00
a_167	College, university and postgraduate training services	3.57	c_162	College, university and postgraduate training services	0.11	0.00
a_168	Health services	0.05	c_163	Health services	0.28	0.00
a_169	Centralized care and nursing services	0.00	c_164	Centralized care and nursing services	0.00	0.00
a_170	Social support services are not centralized	0.02	c_165	Social support services are not centralized	0.00	0.00
a_171	Creative, artistic and entertainment services	0.02	c_166	Creative, artistic and entertainment services	0.01	0.00
a_172	Services of libraries, archives, museums and other cultural activities	1.24	c_167	Services of libraries, archives, museums and other cultural activities	0.01	0.00
a_173	Lottery, betting and gambling services	0.53	c_168	Lottery, betting and gambling services	2.70	0.00
a_174	Sports, entertainment and recreation services	0.07	c_169	Sports, entertainment and recreation services	0.81	0.00
a_175	Services of other associations and organizations	0.06	c_170	Services of other associations and organizations	0.05	0.00
a_176	Computer repair service, personal and household appliances	0.03	c_171	Computer repair service, personal and household appliances	0.03	0.00
a_177	Other personal services	0.01	c_172	Other personal services	0.09	0.00
a_178	Household chores service for households	0.00	c_173	Household chores service for households	0.00	0.00

The Industry and Construction sector is characterized by high import intensity and acts as the main driver of intermediate production, exports, and investment. In contrast, the Services sector is self-sufficient in supply and focuses on serving domestic final consumption needs.

Commodity Supply and Demand Structure by Sector

Table 5 illustrates the distinct roles and dependencies of the three major economic sectors (Agriculture, Forestry, and Fisheries; Industry and Construction; and Services) concerning overall commodity supply and demand.

Commodity Supply Structure: Industrial Dominance and Import Dependency

The structure of commodity supply is heavily concentrated in the Industry and Construction sector, while simultaneously highlighting its high reliance on imports.

- Domestic Production: The Industry and Construction sector is the largest contributor to domestic supply, accounting for 64.6%. The Services sector is the second largest (26.3%).
- Import Dependency: Industry completely dominates imported supply, consuming 91.0% of total commodity imports. This significant share underscores the high dependence of the industrial sector on foreign raw materials and components to sustain its production scale. Conversely, the Services sector shows a very small share (3.8%), indicating high self-sufficiency regarding tangible imported inputs.

Commodity Demand Structure: Specialization by End-Use

The analysis of demand reveals a clear allocation pattern, with Industry driving production and investment, and Services primarily supplying domestic consumption and public services.

The Industry and Construction sector is the undisputed leader in demands related to production and global commerce:

- Intermediate Demand: The sector commands the largest share, 71.6% of total intermediate demand, confirming its role as the essential input source for other economic activities.
- Investment and Exports: The sector nearly monopolizes Investment Demand (98.2%) and dominates Export Demand (91.5%), confirming its status as the main pillar for capital accumulation and foreign exchange earnings.

The Services sector concentrates on meeting internal consumption needs:

- Government Demand: Services entirely satisfy 100.0% of total government demand, reflecting the government's primary consumption of public and administrative services.
- Household Demand: This demand is primarily met by Industry (49.0%) and Services (43.9%), confirming both are critical sources of goods and services for final household consumption.

Table 5: Structure of commodity supply and demand in ESAM 2019

		Share (%)		
		AFF	***Industry and Construction***	***Services***
Supply	Domestic Supply	9.11	64.58	26.31
	Imported Supply	5.21	90.97	3.82
Demand	Intermediate Demand	8.25	71.61	20.14
	Household Consumption	7.18	48.97	43.85
	Government Consumption	0.00	0.00	100.00
	Investment Demand	1.81	98.19	0.00
	Exports	2.27	91.48	6.25

3.2. Income and income distribution according to factors of production

Table 6 presents the structure of the value added of each factor of production (labour, capital, and land). In this table, the sum of the three main columns (Capital, Land, and Labour) for each row is

implicitly 100%. Column "Urban" and "Rural" show the ratio of the share of total labour (column "Total labour") divided by urban and rural areas, respectively. Similarly, columns "Tertiary", "Secondary", and "Primary School" represent the share of total labour by labour skill levels.

About the overall economy, Table 6 indicates that the labour factor contributed most to the value added, accounting for 66.5%. This was followed by capital, at 32.8%, and land, at 0.8%. Rural workers collectively contributed a slightly higher share to value added (33.8%) compared to urban workers (32.7%). Regarding labour skill levels[2], Tertiary created the most value at 34.6%, followed by Secondary at 26.8%, and Primary at 5.0%. In the agricultural sector, labour is the predominant factor in value creation, especially within the farming and forestry sub-sectors, where the labour share is over 90%. Specifically, Agriculture, Forestry and Fisheries (as a whole) has a 92.8% labour share in value added, Crop Production shows 93.6%, and Forestry stands at 96.3%.

Capital serves as the main factor generating value for the Industry and Construction sector, contributing 38.9% of its value added. This is particularly evident in sectors such as Gaseous or liquefied natural gas (c_036), where the capital share is 69.7%, and Crude oil extraction (c_035), with 43.0%. In some sub-sectors, the share of capital is comparatively modest while the labour contribution is significant. For instance, in Hard coal and lignite (c_034), the capital share is 60.7%, while the labour share is 39.3%. Similarly, Wood processing products and products from wood, bamboo (c_064) show a capital share of 22.4% with a labour share of 77.6%, and Shoes and sandals (c_063) have a capital share of 20.4% against a labour share of 79.6%. These figures partly underscore the lower level of technology and the labour-intensive characteristics prevalent in these specific sectors.

Table 6: Production factor structure in sectoral value added in ESAM 2019

Unit: %

Sectors		Capital	Land	Labour					
				Total	***Urban***	***Rural***	***Tertiary***	***Secondary school***	***Primary school***
Total		32.78	0.75	66.47	32.67	33.80	34.60	26.83	5.04
Agriculture, Forestry and Fisheries		1.27	5.95	92.78	15.83	76.95	12.78	60.03	19.97
Crop Production		0.64	5.77	93.59	13.01	80.58	12.85	62.72	18.03
c_001	Paddy	0.40	5.88	93.72	10.73	82.99	11.54	64.71	17.46
c_002	Corn and other grain food products	0.33	4.79	94.88	5.97	88.91	11.16	56.65	27.07
c_003	Root crop products contain starch	0.40	2.57	97.03	12.89	84.14	7.90	55.74	33.39
c_004	Oil-bearing plant products	0.28	4.12	95.60	8.75	86.85	10.96	68.06	16.59
c_005	Fresh sugar cane	0.13	1.96	97.91	12.74	85.17	10.74	64.16	23.01

[2] Skill level is determined here by “highest level of education attained”.

Sectors		Capital	Land	Labour					
				Total	*Urban*	*Rural*	*Tertiary*	*Secondary school*	*Primary school*
c_006	Vegetables. beans of all kinds	0.26	3.86	95.88	19.03	76.86	12.94	66.95	15.99
c_007	Annual flower products	0.55	8.08	91.38	18.13	73.24	12.33	63.80	15.24
c_008	Other remaining annual crop products	0.42	2.73	96.85	8.75	88.10	17.88	61.50	17.46
c_009	Fruit tree products	0.77	4.99	94.24	12.70	81.54	13.51	63.14	17.59
c_010	Dried cashews	0.36	2.31	97.33	13.42	83.91	9.48	64.62	23.23
c_011	Pepper seeds	1.56	10.14	88.30	15.62	72.68	13.11	63.30	11.90
c_012	Dried latex	0.75	4.87	94.38	12.55	81.83	18.30	57.93	18.14
c_013	Coffee beans	2.78	18.08	79.14	13.96	65.18	12.63	54.22	12.29
c_014	Fresh tea buds. fresh tea leaves	0.98	6.35	92.68	19.45	73.23	15.29	64.06	13.32
c_015	Other remaining perennial plant products	0.83	5.37	93.80	11.78	82.02	12.88	53.41	27.52
Livestock		2.77	4.79	92.44	14.85	77.59	20.39	53.67	18.38
c_016	Buffalo and cow livestock products	1.30	8.17	90.53	9.45	81.08	9.81	57.34	23.38
c_017	Pig farming products	0.96	6.00	93.04	11.76	81.28	17.39	61.53	14.12
c_018	Poultry products	0.88	5.53	93.59	8.94	84.65	17.57	59.90	16.12
c_019	Other remaining livestock products	0.79	4.98	94.23	9.25	84.98	20.98	59.02	14.23
c_020	Agricultural services	7.71	0.00	92.29	26.97	65.33	32.96	34.96	24.38
c_021	Hunting and trapping products and related services	14.66	0.00	85.34	35.18	50.16	1.82	52.52	31.00
c_022	Other agricultural products have not been classified yet	2.99	19.40	77.61	35.05	42.56	33.51	32.99	11.11
Forestry		3.68	0.00	96.32	3.82	92.50	16.56	71.51	8.25
c_023	Forest planting and care products and forestry seedlings	4.66	0.00	95.34	15.39	79.95	19.57	51.29	24.48
c_024	Harvested wood	3.69	0.00	96.31	0.00	96.31	28.36	67.96	0.00

Sectors		Capital	Land	Labour					
				Total	*Urban*	*Rural*	*Tertiary*	*Secondary school*	*Primary school*
c_025	Other exploited and collected forest products except wood	2.17	0.00	97.83	3.97	93.86	0.00	86.62	11.20
c_026	Forestry services	12.99	0.00	87.01	10.62	76.39	16.72	44.12	26.18
Fisheries		1.09	8.59	90.31	26.03	64.28	5.69	56.15	28.48
c_027	Marine aquatic products	1.20	9.42	89.38	32.57	56.82	4.59	59.18	25.62
c_028	Inland exploited aquatic products	0.74	5.79	93.47	22.18	71.29	5.79	54.50	33.19
c_029	Marine aquaculture products	1.19	9.38	89.43	16.57	72.85	15.04	53.86	20.52
c_030	Catfish	1.26	9.96	88.77	21.07	67.70	5.50	51.76	31.52
c_031	White leg shrimp. Black tiger shrimp	0.96	7.60	91.44	21.70	69.73	5.66	53.31	32.46
c_032	Other inland aquaculture products	0.81	6.37	92.82	22.03	70.79	5.75	54.12	32.96
c_033	Domestic aquatic breeds	1.98	15.62	82.40	9.53	72.87	10.20	53.73	18.47
Industry and Construction		38.87	0.00	61.13	26.64	34.49	30.59	27.32	3.23
Mining and Quarrying		58.80	0.00	41.20	28.77	12.43	27.09	12.10	2.01
c_034	Hard coal and lignite	60.74	0.00	39.26	32.71	6.54	30.68	8.58	0.00
c_035	Crude oil extraction	42.96	0.00	57.04	27.19	29.84	24.34	26.47	6.22
c_036	Gaseous or liquefied natural gas	69.71	0.00	30.29	30.29	0.00	30.29	0.00	0.00
c_037	Metal ores and metal concentrates	49.72	0.00	50.28	25.24	25.03	42.76	7.52	0.00
c_038	Stone. sand. gravel. clay	67.16	0.00	32.84	12.43	20.41	4.82	25.72	2.29
c_039	Mining products have not been classified yet	36.97	0.00	63.03	44.69	18.35	30.14	29.13	3.77
c_040	Mining support services	40.99	0.00	59.01	51.54	7.46	44.57	14.43	0.00
Manufacturing		39.07	0.00	60.93	31.68	29.25	24.82	29.78	6.32

Sectors		Capital	Land	Labour					
				Total	*Urban*	*Rural*	*Tertiary*	*Secondary school*	*Primary school*
c_041	Products processed and preserved meat and meat products	25.64	0.00	74.36	44.00	30.37	24.55	40.42	9.40
c_042	Livestock and poultry slaughtering services	40.85	0.00	59.15	35.00	24.16	19.53	32.15	7.47
c_043	Aquatic products and processed and preserved aquatic products	30.06	0.00	69.94	29.42	40.52	14.25	44.70	10.99
c_044	Processed vegetables and fruits	34.26	0.00	65.74	13.09	52.65	11.33	38.39	16.03
c_045	Processed animal and vegetable oils and fats	25.88	0.00	74.12	36.29	37.83	47.95	24.84	1.32
c_046	Milk and dairy products	46.40	0.00	53.60	36.25	17.34	48.85	4.45	0.30
c_047	Milling products and flour production	48.44	0.00	51.56	14.55	37.01	14.43	23.02	14.11
c_048	Sugar. Honey	34.24	0.00	65.76	27.76	38.00	49.03	14.59	2.14
c_049	Cocoa. chocolate and confectionery; bakery products from flour	24.87	0.00	75.13	49.46	25.66	33.00	36.85	5.28
c_050	Dishes. prepared foods	17.54	0.00	82.46	51.12	31.34	22.11	55.87	4.47
c_051	Coffee	34.02	0.00	65.98	40.90	25.08	17.69	44.71	3.58
c_052	Tea (tea)	24.30	0.00	75.70	46.93	28.77	20.30	51.30	4.11
c_053	Other remaining foods (pasta. noodles and similar products; other foods not yet classified...)	34.07	0.00	65.93	29.97	35.96	31.51	28.64	5.78
c_054	Feed for livestock. poultry and aquatic products	41.33	0.00	58.67	29.71	28.95	22.32	31.83	4.52
c_055	Wine of all kinds	36.58	0.00	63.42	29.95	33.47	27.75	31.70	3.97
c_056	Beer	77.00	0.00	23.00	15.11	7.89	19.31	3.46	0.22

Sectors		Capital	Land	Labour					
				Total	*Urban*	*Rural*	*Tertiary*	*Secondary school*	*Primary school*
c_057	Non-alcoholic drinks. mineral water. purified water	35.81	0.00	64.19	45.91	18.28	38.55	23.82	1.82
c_058	Tobacco products	50.32	0.00	49.68	35.60	14.07	19.02	30.65	0.00
Textile and apparel		32.36	0.00	67.64	26.25	41.40	27.21	38.39	2.04
c_059	Yarn. woven fabric and finished textile products	33.96	0.00	66.04	21.76	44.29	35.26	29.96	0.82
c_060	Other textile products	34.16	0.00	65.84	22.96	42.88	29.01	33.35	3.49
c_061	All types of clothing include clothing made of woven. knitted. crocheted fabrics. leather. synthetic leather. and fur.	37.96	0.00	62.04	22.05	39.99	26.52	34.43	1.09
c_062	Leather. pre-processed; suitcases. handbags. saddle cushions; Preliminary and dyed fur skins	18.26	0.00	81.74	26.62	55.12	24.26	53.74	3.74
c_063	Shoes and sandals	20.40	0.00	79.60	39.09	40.52	23.88	51.46	4.26
Wood and paper		28.37	0.00	71.63	30.42	41.21	29.76	36.82	5.05
c_064	Wood processing products and products from wood. bamboo (except beds. cabinets. tables. chairs); of straw. thatch and plaiting materials	22.37	0.00	77.63	18.34	59.29	13.52	57.94	6.17
c_065	Paper and paper products	37.02	0.00	62.98	35.92	27.06	32.72	24.30	5.96
c_066	Printing and copying services of all types	24.63	0.00	75.37	50.14	25.22	66.39	8.97	0.00
Coal and fuels		48.95	0.00	51.05	30.98	20.07	37.12	12.72	1.21
c_067	Coke	31.35	0.00	68.65	67.55	1.10	67.55	0.00	1.10

Sectors		Capital	Land	Labour					
				Total	*Urban*	*Rural*	*Tertiary*	*Secondary school*	*Primary school*
c_068	Fuel oil and gasoline; lubricants	50.31	0.00	49.69	28.99	20.70	35.34	13.15	1.20
c_069	Remaining petroleum products	28.63	0.00	71.37	41.63	29.73	50.76	18.88	1.73
Chemicals		39.79	0.00	60.21	30.18	30.03	34.03	22.75	3.44
c_070	Basic chemicals	53.23	0.00	46.77	28.94	17.83	39.40	3.18	4.20
c_071	Fertilizers and nitrogen compounds	33.51	0.00	66.49	26.56	39.93	43.42	18.02	5.05
c_072	Plastic and synthetic rubber in primary forms	37.78	0.00	62.22	35.80	26.42	22.13	32.55	7.54
c_073	Pesticides and other chemical products used in agriculture	31.65	0.00	68.35	31.60	36.75	32.72	30.84	4.79
c_074	Other chemical products; synthetic fibres. artificial fibres	40.28	0.00	59.72	27.61	32.11	28.59	26.94	4.19
c_075	Medicines of all kinds; Pharmaceutical chemistry and medicinal materials	41.12	0.00	58.88	43.27	15.60	43.12	15.76	0.00
c_076	Products from rubber	48.82	0.00	51.18	16.94	34.24	19.56	25.18	6.43
c_077	Products from plastic	36.97	0.00	63.03	31.63	31.41	37.72	23.25	2.07
Non-metallic minerals		40.64	0.00	59.36	20.93	38.42	25.24	31.34	2.77
c_078	Glass and products from glass	48.36	0.00	51.64	27.99	23.66	29.05	21.72	0.87
c_079	Refractory products; Construction material products from clay; Other ceramic products	36.05	0.00	63.95	20.62	43.34	28.11	30.01	5.84
c_080	Cement of all kinds	50.08	0.00	49.92	22.07	27.84	24.69	22.83	2.40

Sectors		Capital	Land	Labour					
				Total	*Urban*	*Rural*	*Tertiary*	*Secondary school*	*Primary school*
c_081	Uncategorized non-metallic mineral products (except cement; bricks. tiles. paving stones and baked clay construction products)	35.39	0.00	64.61	19.23	45.39	22.92	40.74	0.96
Metals		42.40	0.00	57.60	21.71	35.89	38.15	18.84	0.62
c_082	Cast iron. iron and steel products	43.39	0.00	56.61	22.51	34.10	39.84	16.35	0.42
c_083	Non-ferrous metal products. precious metals and metal casting services	36.76	0.00	63.24	17.22	46.02	28.55	32.95	1.74
Machinery equipment and other manufacturing		29.81	0.00	70.19	26.35	43.83	41.21	26.39	2.59
c_084	Prefabricated metal products (except machinery and equipment)	25.39	0.00	74.61	32.30	42.31	32.82	38.18	3.60
c_085	Electronic components products; Computer and computer peripheral equipment. Communication equipment	28.65	0.00	71.35	20.52	50.83	50.65	20.30	0.40
c_086	Consumer electronic products	38.09	0.00	61.91	28.04	33.87	46.99	14.93	0.00
c_087	Measurement. testing. navigation and control equipment; clock; Radiation equipment. medical electronic equipment. electrotherapy; Optical equipment and instruments; tape.	23.11	0.00	76.89	43.47	33.41	55.01	21.88	0.00

Sectors		Capital	Land	Labour					
				Total	*Urban*	*Rural*	*Tertiary*	*Secondary school*	*Primary school*
	magnetic and optical disks								
c_088	Motors. generators. power transformers. power distribution and control equipment	26.20	0.00	73.80	36.44	37.36	47.95	24.66	1.19
c_089	Batteries and accumulators	36.55	0.00	63.45	21.20	42.24	33.03	26.42	3.99
c_090	Wires and wiring equipment	28.55	0.00	71.45	25.22	46.24	43.83	24.95	2.67
c_091	Electrical lighting equipment	15.48	0.00	84.52	42.66	41.86	58.17	23.31	3.04
c_092	Household electrical appliances (family refrigerators. dishwashers. washing machines. vacuum cleaners. etc.)	35.37	0.00	64.63	40.87	23.76	44.23	20.40	0.00
c_093	Other electrical equipment	39.30	0.00	60.70	12.02	48.68	28.81	31.89	0.00
c_094	Common machine	41.38	0.00	58.62	31.99	26.63	47.66	10.96	0.00
c_095	Specialized machine	30.70	0.00	69.30	40.02	29.28	56.95	11.22	1.13
c_096	Cars of all kinds	79.85	0.00	20.15	7.98	12.18	15.09	5.07	0.00
c_097	Remaining motor vehicles (except cars of all kinds). car bodies and other motor vehicles. trailers and semi-trailers; Spare parts and accessories for cars and other motor vehicles	39.65	0.00	60.35	16.61	43.74	43.93	7.31	9.11
c_098	Ships and boats; Locomotives. trams and rolling stock; Aircraft. spacecraft and related machinery.	43.98	0.00	56.02	32.37	23.64	31.97	19.95	4.10

Sectors		Capital	Land	Labour					
				Total	*Urban*	*Rural*	*Tertiary*	*Secondary school*	*Primary school*
	Combat vehicles used in the military								
c_099	Motorcycles. motorbikes	39.67	0.00	60.33	21.93	38.39	43.86	15.77	0.69
c_100	Other means of transport remain	21.68	0.00	78.32	22.25	56.08	50.53	23.64	4.15
c_101	Bed. wardrobe. table. chair	22.78	0.00	77.22	29.96	47.26	19.01	51.14	7.07
c_102	Jewelry. imitation jewellery and related details; Musical instrument; Sports Instruments; Toys. Games	16.06	0.00	83.94	30.81	53.12	33.63	46.27	4.04
c_103	Medical. dental. orthopaedic and rehabilitation equipment and instruments	21.58	0.00	78.42	39.22	39.20	53.46	22.84	2.12
c_104	Other processing and manufacturing products not yet classified	20.44	0.00	79.56	23.12	56.43	35.98	40.03	3.55
c_105	Repair. maintenance and installation services of machinery and equipment	22.20	0.00	77.80	47.02	30.78	38.51	37.93	1.35
Electricity, gas, steam, hot water and air conditioning supply		80.47	0.00	19.53	13.53	6.00	17.72	1.66	0.15
c_106	Electricity	85.23	0.00	14.77	7.34	7.43	13.13	1.43	0.21
c_107	Electricity transmission service	79.25	0.00	20.75	16.35	4.40	19.01	1.65	0.10
c_108	Electricity distribution service	74.25	0.00	25.75	20.28	5.46	23.58	2.04	0.12
c_109	Gas. gas fuel distribution	72.76	0.00	27.24	21.46	5.78	24.95	2.16	0.13

Sectors		Capital	Land	Labour					
				Total	*Urban*	*Rural*	*Tertiary*	*Secondary school*	*Primary school*
	services by pipeline								
c_110	Steam. hot water. ice; Steam. hot water. ice and air conditioning distribution services by pipes	64.86	0.00	35.14	27.69	7.46	32.19	2.79	0.17
c_111	Natural water is exploited	70.29	0.00	29.71	23.41	6.30	27.22	2.36	0.14
Water supply; sewerage, waste management and remediation activities		70.27	0.00	29.73	22.01	7.72	26.04	3.56	0.13
c_112	Drainage and wastewater treatment services	62.22	0.00	37.78	29.77	8.02	34.61	3.00	0.18
c_113	Waste collection. treatment and destruction services; scrap recycling	70.56	0.00	29.44	23.20	6.25	26.97	2.34	0.14
c_114	Pollution treatment services and other waste management activities	75.46	0.00	24.54	4.67	19.87	10.11	14.43	0.00
Construction		17.59	0.00	82.41	29.57	52.84	22.71	51.37	8.33
c_115	House to live in	44.33	0.00	55.67	25.42	30.25	11.92	33.93	9.82
c_116	Other types of houses and house construction services	62.96	0.00	37.04	29.96	7.08	36.15	0.89	0.00
c_117	Railways. railway construction services	55.75	0.00	44.25	39.20	5.05	39.20	5.05	0.00
c_118	Road works. road construction services	63.58	0.00	36.42	22.54	13.88	20.99	13.79	1.64
c_119	Public works and construction services of public works and other civil engineering works	63.79	0.00	36.21	30.30	5.91	36.21	0.00	0.00

Sectors		Capital	Land	Labour					
				Total	*Urban*	*Rural*	*Tertiary*	*Secondary school*	*Primary school*
c_120	Specialized construction services	7.22	0.00	92.78	30.00	62.78	21.27	61.56	9.96
Service		36.23	0.00	63.77	41.36	22.41	43.06	18.10	2.60
c_121	Services Selling cars. motorbikes. motorbikes and other motor vehicles	7.22	0.00	92.78	30.00	62.78	21.27	61.56	9.96
c_122	Car. motorbike. motorbike and other motor vehicle repair services	17.19	0.00	82.81	26.78	56.03	18.98	54.94	8.89
c_123	Commercial services	27.36	0.00	72.64	41.95	30.69	46.55	20.89	5.20
c_124	Railway passenger transport service	22.30	0.00	77.70	44.87	32.83	49.79	22.34	5.56
c_125	Railway freight transport services	33.53	0.00	66.47	31.99	34.48	43.79	20.41	2.27
c_126	Bus transport services. other road passenger transport services	27.13	0.00	72.87	22.39	50.48	44.63	24.20	4.04
c_127	Freight transport services by road. pipeline transport services	16.70	0.00	83.30	64.66	18.64	64.62	16.76	1.92
c_128	Waterway passenger transport service	17.12	0.00	82.88	50.35	32.53	45.78	33.99	3.11
c_129	Waterway cargo transportation services	16.72	0.00	83.28	52.28	31.00	46.07	32.74	4.48
c_130	Air passenger transportation services	24.07	0.00	75.93	51.76	24.17	64.81	11.12	0.00
c_131	Air cargo transportation services	34.53	0.00	65.47	40.22	25.25	38.68	26.79	0.00
c_132	Warehousing services and transportation support activities	41.30	0.00	58.70	37.75	20.95	29.59	27.81	1.30

Sectors		Capital	Land	Labour					
				Total	*Urban*	*Rural*	*Tertiary*	*Secondary school*	*Primary school*
c_133	Postal and delivery services	40.40	0.00	59.60	35.29	24.31	30.32	27.54	1.74
c_134	Lodging	27.56	0.00	72.44	46.30	26.13	28.57	40.38	3.49
c_135	Food Service	41.72	0.00	58.28	28.20	30.09	32.74	21.39	4.15
c_136	Publishing activities	50.38	0.00	49.62	47.08	2.54	48.95	0.67	0.00
c_137	Film services. television program production. recording and music publishing	46.79	0.00	53.21	50.58	2.64	52.53	0.69	0.00
c_138	Radio and television broadcasting services	55.95	0.00	44.05	37.18	6.87	29.72	10.62	3.71
c_139	Telecommunication services	28.88	0.00	71.12	50.61	20.52	46.94	24.19	0.00
c_140	Computer programming services. consulting services and other activities related to computers	17.36	0.00	82.64	65.24	17.40	58.58	22.28	1.77
c_141	Other information services	10.44	0.00	89.56	59.59	29.97	34.58	46.89	8.09
c_142	Financial services (except insurance and social insurance)	29.69	0.00	70.31	59.92	10.39	70.31	0.00	0.00
c_143	Life insurance and Life reinsurance services	38.45	0.00	61.55	35.66	25.89	61.55	0.00	0.00
c_144	Non-life insurance and non-life reinsurance services	47.80	0.00	52.20	48.23	3.97	52.20	0.00	0.00
c_145	Other financial services	55.54	0.00	44.46	36.66	7.80	43.13	1.33	0.00
c_146	Real estate business services	49.88	0.00	50.12	49.01	1.12	49.99	0.13	0.00
c_147	Legal. accounting and auditing services	43.16	0.00	56.84	45.96	10.88	55.60	1.24	0.00

Sectors		Capital	Land	Labour					
				Total	*Urban*	*Rural*	*Tertiary*	*Secondary school*	*Primary school*
c_148	Services of office headquarters; management consulting services	68.78	0.00	31.22	26.39	4.83	29.75	1.45	0.02
c_149	Architectural services; Technical testing and analysis	33.06	0.00	66.94	50.40	16.53	58.39	8.55	0.00
c_150	Scientific research and technology development services	26.13	0.00	73.87	56.44	17.42	70.85	2.83	0.18
c_151	Advertising and market research services	30.18	0.00	69.82	50.21	19.61	63.76	2.04	4.01
c_152	Other professional. scientific and technological services	88.20	0.00	11.80	9.45	2.35	8.42	3.26	0.12
c_153	Veterinary services	28.65	0.00	71.35	60.84	10.51	71.35	0.00	0.00
c_154	Machinery and equipment rental service (without operator); rental of personal and household items; leasing non-financial intangible assets	27.40	0.00	72.60	72.60	0.00	72.60	0.00	0.00
c_155	Labour and employment services	30.14	0.00	69.86	67.26	2.60	69.86	0.00	0.00
c_156	Services of travel agencies. tour businesses and support services. related to promotion and organization of tours	28.42	0.00	71.58	71.58	0.00	71.58	0.00	0.00
c_157	Investigation services ensure safety	29.71	0.00	70.29	58.33	11.96	61.86	7.70	0.73

Sectors		Capital	Land	Labour					
				Total	*Urban*	*Rural*	*Tertiary*	*Secondary school*	*Primary school*
c_158	House. construction and landscape cleaning services	27.73	0.00	72.27	52.96	19.31	65.42	5.95	0.90
c_159	Administrative services. office support and other business support activities	20.28	0.00	79.72	16.66	63.06	34.45	45.28	0.00
c_160	Services of the Communist Party. socio-political organizations. state management. national security and defence and compulsory social security	29.76	0.00	70.24	33.39	36.84	55.87	14.06	0.31
c_161	Education and training (except college. university and postgraduate training)	23.27	0.00	76.73	70.01	6.73	76.73	0.00	0.00
c_162	College. university and postgraduate training services	26.95	0.00	73.05	51.99	21.06	64.71	7.03	1.30
c_163	Health services	19.67	0.00	80.33	45.15	35.18	45.11	33.52	1.71
c_164	Centralized care and nursing services	20.89	0.00	79.11	43.91	35.20	22.03	40.08	17.00
c_165	Social support services are not centralized	27.32	0.00	72.68	55.52	17.16	48.33	24.35	0.00
c_166	Creative. artistic and entertainment services	15.74	0.00	84.26	53.69	30.57	78.51	5.61	0.14
c_167	Services of libraries. archives. museums and other cultural activities	33.92	0.00	66.08	38.05	28.03	63.47	2.58	0.04
c_168	Lottery. betting and gambling services	40.54	0.00	59.46	54.02	5.45	58.06	1.41	0.00

Sectors		Capital	Land	Labour					
				Total	*Urban*	*Rural*	*Tertiary*	*Secondary school*	*Primary school*
c_169	Sports. entertainment and recreation services	38.67	0.00	61.33	44.46	16.86	58.07	3.19	0.06
c_170	Services of other associations and organizations	29.94	0.00	70.06	28.99	41.07	26.31	43.75	0.00
c_171	Computer repair service. personal and household appliances	37.37	0.00	62.63	38.20	24.44	58.04	4.59	0.00
c_172	Other personal services	33.64	0.00	66.36	19.94	46.42	18.15	19.94	28.27
c_173	Household chores service for households	30.20	0.00	69.80	26.06	43.73	20.42	49.38	0.00

Table 7 presents the structure of household income derived from the factors of production according to ESAM 2019. Accordingly, labour remains the main source of income for households, followed by capital and land.

Total income from labour accounts for 75.3% of total household income, while the shares of income from capital and land are 17.2% and 0.9%, respectively. Among the skill levels, income from tertiary labour contributes the most (40.9%), followed by secondary labour (29.1%) and primary labour (5.3%). Government transfers account for 1.9% while remittances from abroad contributes to 4.7% of total household income.

Urban Households

For urban households, the shares of income from capital (16.5%) and land (0.20%) are both lower than the economy-wide average (capital: 17.2%; land: 0.9%). Labour income contributes 78.2% while tertiary labour generates the highest share of income for urban households (57.5%), followed by secondary labour (18.0%) and primary labour (2.7%). Government transfer contributes 0.9% while remittance from abroad accounts for 4.1%.

Rural Households

In rural areas, the share of income from capital (17.8%) is slightly higher than that of urban areas (16.5%). The share of income from land (1.6%) is also higher than in urban areas (0.20%). Labour income (72.8%) is slightly lower than in urban areas (78.2%). Both the share of government transfers and remittances from abroad are 2.7% and 5.2% respectively, which are higher than that of urban households.

Income Quintile

By income quintile, the highest income group (quintile 5) that has the highest share of income from capital (30.3%) is the non-agricultural households in rural areas. Conversely, the lowest share of income from capital (8.9%) is the agriculture household in the lowest income quintile in

urban areas. This household group also earns the highest income share from labour (86%). Furthermore, the higher income groups tend to earn higher income from tertiary labour in either urban and rural or agriculture and non-agriculture households. The lowest income households in rural areas tend to have the highest share of government transfer in their total income. The highest income households tend to receive a higher share of remittance from abroad in their total income.

Table 7: Household income structure in ESAM 2019

Unit: %

		Labour				Capital	Land	Govm't transfer	Remitt
		Total	*Tertiary*	*Secondary*	*Primary*				
All households		75.3	40.9	29.1	5.3	17.2	0.9	1.9	4.7
Urban households		78.2	57.5	18.0	2.7	16.5	0.2	0.9	4.1
Urban agriculture	Quintile 1 (lowest)	86.0	7.6	61.3	17.1	8.9	0.9	3.2	1.0
	Quintile 2	85.7	28.0	44.5	13.1	11.2	0.8	1.6	0.7
	Quintile 3	74.3	31.1	39.4	3.8	12.9	0.8	1.2	10.7
	Quintile 4	79.2	33.0	41.6	4.6	15.8	1.3	2.0	1.7
	Quintile 5 (highest)	76.6	45.5	27.7	3.4	14.9	1.4	1.2	5.9
Non-agriculture	Quintile 1 (lowest)	84.9	11.9	44.6	28.4	12.9	0.0	2.2	0.0
	Quintile 2	73.7	25.8	40.3	7.6	20.9	0.0	2.5	3.0
	Quintile 3	79.5	43.5	30.1	5.9	18.5	0.0	0.9	1.2
	Quintile 4	77.1	49.5	24.0	3.6	19.6	0.0	1.0	2.3
	Quintile 5 (highest)	78.4	69.5	8.1	0.8	16.0	0.0	0.7	4.9
Rural households		72.8	26.6	38.6	7.5	17.8	1.6	2.7	5.2
Rural agriculture	Quintile 1 (lowest)	77.1	14.8	44.3	18.0	12.0	2.0	6.0	2.9
	Quintile 2	78.5	23.2	46.6	8.7	14.2	1.7	2.7	2.8
	Quintile 3	75.9	24.9	43.2	7.8	15.4	2.1	2.3	4.3
	Quintile 4	73.3	28.1	39.6	5.6	18.1	1.8	2.0	4.8
	Quintile 5 (highest)	67.4	26.5	36.8	4.1	18.3	2.5	1.7	10.2
Non-agriculture	Quintile 1 (lowest)	70.5	20.3	31.4	18.8	13.9	0.0	7.5	8.2
	Quintile 2	77.1	29.5	38.7	8.9	16.6	0.0	3.1	3.2
	Quintile 3	78.0	31.8	39.8	6.5	14.8	0.0	2.2	4.9
	Quintile 4	65.7	38.5	23.4	3.7	27.0	0.0	2.3	5.0
	Quintile 5 (highest)	61.1	38.1	20.1	3.0	30.3	0.0	2.5	6.1

3.3. The structure of household consumption

Table 8 shows the percentage share of the contribution of each household group to total outlays (including Consumption, Direct Taxes, Transfers to the Rest of the World, and Savings).

General Outlay Patterns by Region

- Consumption: Rural households account for a significantly larger share of total consumption of goods and services (70.07%) compared to Urban households (29.93%). Specifically, the Rural Agriculture group contributes an overwhelming 62.31% of total consumption.
- Savings & Transfers: Rural households also contribute most of the total Savings (60.60%) and Transfers to the Rest of the World (53.70%), far exceeding Urban contributions (39.40% Saving). This highlights the rural sector as a critical source of savings and remittances.
- Direct Taxes (Dtx): Conversely, Urban households bear a higher cumulative share of Direct Taxes (19.57%) compared to Rural households (9.60%). The Urban Non-agriculture group is the main contributor within the urban sector (18.35%).

Identifying the Top Contributors to Taxes and Saving

A detailed examination of the national income quintiles (Group 1 - Lowest to Group 5 - Highest) provides a clearer picture of the distribution of tax obligations and saving capacity:

- Contribution to Direct Taxes (Dtx): Out of the total direct taxes contributed by the household sector, the tax burden is highly concentrated on the highest-income group. Specifically, Group 5 (the highest national income group) contributed 21.37% to the total direct taxes of the entire economy. The contribution of this highest-income group alone even surpasses that of the entire Urban sector (19.57%) and the Urban Non-agriculture subgroup (18.35%). This clearly reflects the progressive nature of direct taxes, concentrating on the population group with the highest capacity to pay.
- Contribution to Savings: The Rural Agriculture household group plays the most dominant role in capital formation, contributing the highest single share of 48.58% to total Savings. Additionally, when looking at income levels, Group 5 (highest national income) also contributes a substantial 26.15% to total Savings, showing that the high-income class and the rural agricultural sector are the two main pillars for overall capital accumulation.

Table 8: Shares of outlays by household groups (SAM 2019)

Unit: %

Households	Consumption (Goods & Services)	Direct Taxes (Dtx)	Transfers to the Rest of the World (RoW)	Savings
Total	100.00	100.00	100.00	100.00
Urban	29.93	19.57	46.30	39.40
Agriculture	4.39	1.23	7.48	8.92
Non-agriculture	25.54	18.35	45.01	30.48

Households	Consumption (Goods & Services)	Direct Taxes (Dtx)	Transfers to the Rest of the World (RoW)	Savings
Rural	70,07	9.60	53.70	60.60
Agriculture	62.31	8.06	41.47	48.58
Non-agriculture	7.76	1.54	12.23	12.02
By Quintile				
Group 1 (Lowest)	3.98	0.42	9.55	12.80
Group 2	6.85	1.41	12.80	15.76
Group 3	9.67	2.01	15.76	16.50
Group 4	51.25	3.95	21.85	20.16
Group 5 (Highest)	28.24	21.37	34.32	26.15

Table 9 shows the structure of household consumption in ESAM 2019. Overall, 34.57% of the total household consumption is spent on food, while 65.43% is for non-food.

Breakdown by Area

The rural household share of food consumption (36.24%) is slightly higher than for urban ones (32.78%). The structure of consumption varies significantly.

- The share of food consumption of Non-agriculture households is slightly higher than that of Agriculture households in rural areas (37.97% vs 35.69%).
- Conversely, in urban areas, the share of food consumption is higher for Agriculture households (35.42%) than for Non-agriculture households (32.33%).
- Notably, Urban Non-agriculture households have the highest non-food consumption share (67.67%), while Rural Non-agriculture households have the lowest non-food consumption share (62.03%).

Breakdown by Income Quintile

- In terms of income level, the data is in line with Engel's Law: the higher the income, the lower the share of food consumption (as seen from Group 1 to Group 5).
- Households in Group 1 (Lowest) spent 48.48% of their consumption on food, while this ratio for Group 5 (Highest) is only 27.45%.
- Conversely, the percentage of non-food consumption of households increased respectively from 51.52% (Group 1) to 72.55% (Group 5).

Table 9: Household consumption structure in ESAM 2019

Unit: %

Households	Food (%)	Non-food (%)	Total (%)
Total	34.57	65.43	100
Urban	32.78	67.22	100
Agriculture	35.42	64.58	100

Non-agriculture		32.33	67.67	100
Rural		36.24	63.76	100
Agriculture		35.69	64.31	100
Non-agriculture		37.97	62.03	100
By quintile	Group 1 (Lowest)	48.48	51.52	100
	Group 2	41.97	58.03	100
	Group 3	39.87	60.13	100
	Group 4	37.86	62.14	100
	Group 5 (Highest)	27.45	72.55	100

CHAPTER 4: Energy-focused 2019 SAM

4.1. Energy features of the 2019 ESAM

Viet Nam recognizes climate change as an irreversible trend and the greatest global challenge it faces, impacting all aspects of life: economics, politics, diplomacy, and security. Every country must proactively adapt to and mitigate these adverse impacts, taking responsibility for reducing greenhouse gas (GHG) emissions as committed in their Nationally Determined Contributions (NDCs) under the Paris Agreement. The global objective of achieving net-zero emissions by 2050, primarily through energy transition and low emission development, has become a new global norm in trade and investment, especially following COP26. For Viet Nam, this transformation represents not only a challenge but also an opportunity to restructure the economy towards sustainability, enhance competitiveness, and seize international cooperation and investment opportunities. Although Viet Nam has made initial progress in climate action, a paradigm shift is required, placing climate change at the centre of policy to effectively and transparently achieve global goals while promoting a green, circular, and environmentally friendly economy. This aligns with the nation's vision of becoming a high-income developed country by 2045.

The National Climate Change Strategy to 2050 (Decision No. 896/QD-TTg dated July 26, 2022) aims to enhance adaptive capacity, reduce vulnerability, and minimize losses and damages from climate change. Viet Nam commits to achieving net-zero GHG emissions by 2050 and contributing actively and responsibly to the global effort to safeguard the Earth's climate system. The strategy also seeks to leverage climate action as a catalyst for transforming the growth model and improving economic resilience and competitiveness.

The 2019 ESAM has 10 energy subsectors and products, including coal, crude oil, natural gas, fuel oil and gasoline and 6 types of electricity (hydro, coal, gas, wind, solar, other power). To facilitate the analysis of policy choices, a first attempt was made to link the ESAM with the energy accounts[3]. This enables us to measure 10 energy sub-sectors' production and consumption in both physical and monetary terms. Due to limited energy data, physical energy consumption data was collected by the NSO for 46 out of the 178 sectors in the ESAM. It is therefore essential to map the 46 energy accounts sectors with the 178 sectors in the ESAM as presented in Appendix 4.

Furthermore, using energy consumption data in physical terms, emission accounts were constructed, providing a basis for policy analysis related to the green transition and emission reduction.

4.2. Power production

The gross output of the electricity production was split into six subsectors based on the physical quantity generated by each type. Physical quantity data was obtained from the energy accounts while data on the average cost of each type of electricity was synthesized from the power cost structure. The 2019 gross electricity output of the six sub-sectors are shown in Table 10 and described below:

- Hydropower: produced 66,569 million kWh with a production value of 93,056 billion VND, accounting for almost 29% of total electricity output and 28% of total production value.

[3] See the descriptive report on energy and emission accounts for further information.

- Coal thermal power: served as the largest contributor, generating 112,234 million kWh with a production value of 161,626 billion VND, representing almost 49% of total electricity output and 49% of total production value.
- Gas thermal power: generated 40,803.8 million kWh with a production value of 64,752 billion VND, making up nearly 18% of total electricity output and nearly 20% of total production value.
- Wind power: generated 723 million kWh with a production value of 3,996 billion VND, accounting for only 0.3% of total electricity output and 1.2% of total production value.
- Solar power: Produced 4,951.9 million kWh with a production value of 7,953 billion VND, representing just over 2% of total electricity output and 2% of total production value.
- Other power sources (e.g. biomass, waste, diesel and fuel thermal power): Generated approximately 4,444 million kWh with a production value of 874 billion VND, accounting for close to 2% of total electricity output and almost 0.3% of total production value.

Table 10: Structure of electricity production in 2019 ESAM

Source of power	Electricity output	Production value	Production structure by subsector per year	
	(million kWh)	*(billion VND)*	*By Electricity Output (%)*	*By Production Value (%)*
Hydropower	66,569.0	93,056	28.98	28.01
Coal thermal power	112,234.4	161,626	48.86	48.64
Gas thermal power	40,803.8	64,752	17.76	19.49
Wind electricity	723.1	3,996	0.31	1.20
Solar power	4,951.9	7,953	2.16	2.39
Other electricity	4,443.8	874	1.93	0.26

The essential data on the production cost structure for the six electricity subsectors is presented in Table 10. The breakdown of this cost to gross output is as follows:

Value added/gross output:

- Hydropower has the highest value-added share at 77.3%, reflecting its capital-intensive nature and lower reliance on intermediate inputs.
- Wind and Solar power also show high value-added shared at 74.4% and 72.5%, respectively, indicating their efficiency in converting natural resources into economic value.
- Coal and Gas thermal power have significantly lower value-added shares at 38.3% and 37.0%, suggesting a heavy reliance on intermediate inputs.
- Other power sources fall in between with 53.8% value-added share.

Capital cost/gross output:

- Hydropower (65.9%), Wind power (54.2%), and Solar power (47.0%) show a high proportion of capital costs, which is consistent with their heavy infrastructure requirements.

- Coal thermal power (30.3%) and Gas thermal power (27.5%) have considerably lower capital cost shares.

Labour cost/gross output:

- Solar power (25.5%) and Wind power (20.3%) have relatively high labour shares
- Hydropower (11.4%), Coal thermal power (7.9%), and Gas thermal power (9.5%) have lower labour cost shares.

Intermediate input cost / gross output:

- Coal thermal power (60.7%) and Gas thermal power (62.1%) exhibit a very high proportion of intermediate input costs, driven by their fuel requirements.
- Hydropower (20.2%), Wind power (23.7%), and Solar power (26.3%) have much lower intermediate input costs, aligning with their renewable nature.
- Other power sources have an intermediate input cost share of 45.3%.

Table 11: Production cost structure of electricity activities

Unit: %

	Hydropower	Coal thermal power	Gas thermal power	Wind electricity	Solar power	Other electricity
Total cost (total gross output)	100	100	100	100	100	100
Value added/gross output	77.3	38.3	37.0	74.4	72.5	53.8
Of which:						
Capital cost/gross output	65.91	30.33	27.46	54.17	47.00	37.80
Labour cost/gross output	11.4	7.9	9.5	20.3	25.5	16.0
Intermediate input cost/ gross output	20.2	60.7	62.1	23.7	26.3	45.3
Of which:						
Hard coal and lignite	0.00	50.48	0.00	0.00	0.00	0.00
Crude oil extraction	0.00	0.00	0.00	0.00	0.00	0.27
Gaseous or liquefied natural gas	0.00	0.00	33.56	0.00	0.00	0.00
Electricity	0.78	0.97	0.59	0.57	0.38	1.52
Fuel oil and gasoline; lubricants	2.10	0.28	15.74	0.17	0.15	3.15
Mining products have not been classified yet	6.39	2.99	5.85	14.16	17.49	8.94
Mining support services	5.7	2.4	0.5	4.4	3.2	4.2
Products processed and preserved meat and meat products	85.0	42.8	43.7	80.7	78.8	81.9

4.3. Electricity consumption and costs by sector

The connection between the physical energy accounts and the ESAM (value) matrix enables a detailed assessment of the electricity consumption status across economic sectors. The Table 12 below provides detailed information on consumption volume (TJ, kWh), total cost (Thousand Billion VND), and average electricity price allocated among five main sectors. These figures reflect the degree of electricity intensity as well as the electricity pricing structure applied to different sectors.

Table 12: Electricity consumption and costs by economic sector in ESAM 2019

Sector	Electricity (TJ)	Volume (kWh)	Cost (Thousand Billion VND)	Average price (VND/kWh)	Volume share (%)
AFF	24,478	6,799,361,770	18.26	2,685	2.9
Industry- construction	470,171	130,603,121,199	239.22	1,832	56.4
Transport	10,226	2,840,597,264	8.93	3,143	1.2
Services	122,172	33,936,624,316	107.76	3,175	14.7
Households	206,517	57,365,835,666	69.07	1,204	24.8

Consumption volume structure and cost scale

In terms of volume, the Industry and Construction sector plays an absolutely dominant role. This sector consumes up to 130.6 billion kWh (equivalent to 470,171 TJ), accounting for 56.4% of total electricity consumption. Corresponding to this massive consumption, the sector's electricity cost is also the highest, reaching 239.22 Thousand Billion VND. This scale reflects the reality that the economy is still heavily dependent on energy-intensive manufacturing and construction industries.

Following closely is the Household sector, consuming 57.3 billion kWh (accounting for 24.8%), with a total cost of 69.07 Thousand Billion VND. The Service sector ranks third, accounting for 14.7% of the consumption volume (about 33.9 billion kWh), but having to pay a cost of up to 107.76 Thousand Billion VND. The remaining sectors, including Agriculture, forestry and fishing, and Transport, have very small electricity consumption, accounting for only 2.9% and 1.2%, respectively.

Analysis of average electricity price differences

The data table indicates a significant disparity in average electricity prices (VND/kWh) among customer groups, reflecting the specific characteristics of the pricing policy and the electricity tariff structure:

- Highest price group: The Service and Transport sectors are paying the highest average electricity prices, at 3,175 VND/kWh and 3,143 VND/kWh, respectively. This explains why the Service sector only accounts for 14.7% of electricity consumption but represents a very large share of costs (over 107 Thousand Billion VND).
- Medium price group: Agriculture, forestry and fishing has an average price of 2,685 VND/kWh.
- Lowest price group: Despite being the largest electricity consumer, Industry and Construction enjoys a relatively low average price of 1,832 VND/kWh (reflecting the

characteristics of wholesale electricity purchases or electricity purchased at high voltage levels for production). Most notably, the Household sector records the lowest average price among all groups, at only 1,204 VND/kWh.

Integrating electricity cost and volume data into the ESAM database clearly demonstrates the cross-subsidization and regulation of energy costs within the economy. The Service sector is bearing a high unit cost burden, while industrial production and household living sectors have access to electricity at significantly lower average prices. This structure serves as a crucial input for designing scenarios to analyze the impacts of policy shocks (such as carbon taxation or changes in electricity tariffs) on economic growth, industrial competitiveness, and social welfare.

CONCLUSION

This report has presented the construction, structure, and content of the 2019 Energy Social Accounting Matrix (ESAM) for Viet Nam, together with a descriptive overview of the country's economic structure in that year as reflected in the ESAM framework. By extending the conventional Social Accounting Matrix with detailed energy accounts, the 2019 ESAM provides a unique and systematic representation of the interconnections between production, consumption, and the use of various energy forms within the national economy. This makes it a highly valuable dataset for both descriptive and analytical purposes.

One of the most distinctive features of the 2019 ESAM is its improved treatment of the electricity sector. Unlike the 2012 SAM, which recorded electricity production based on 2012 SUT as a single activity, the 2019 ESAM disaggregates electricity into six distinct types, as defined in the 2019 SUT. This methodological innovation captures more accurately the real structure of electricity production in Viet Nam, including renewable sources such as wind and solar power. Such granularity is essential for assessing sector-specific characteristics, particularly in the context of energy transition and the expansion of renewable energy capacity.

Another significant advancement is the 2019 ESAM's capacity to link energy production and consumption data, expressed in both monetary and physical units, across 46 industries as well as institutional agents. This feature enables researchers and policymakers to analyse greenhouse gas (GHG) emissions from energy use with a high degree of precision. The 2019 ESAM therefore provides a robust foundation for simulating and evaluating the impacts of policies aimed at reducing GHG emissions. This is of critical importance for Viet Nam, which has pledged to achieve net-zero emissions by 2050 under the commitments made at COP26.

The integration of ESAM data with the energy accounts and GHG emission inventories opens a wide range of analytical applications. These include the assessment of carbon taxation and pricing schemes, the evaluation of structural changes in electricity generation and consumption, and the exploration of income distributional effects of green transition scenarios. Moreover, the 2019 ESAM can serve as a basis for multiplier analysis as well as computable general equilibrium (CGE) modelling. Both approaches can provide evidence-based insights into how different policy options may affect economic growth, sectoral performance, household welfare, and the environment.

In this sense, the 2019 ESAM is not only a technical database but also a strategic tool for policy design and evaluation. It allows analysts and policymakers to test alternative strategies for emission reduction and green growth in a controlled, model-based environment before implementation. This capability is particularly relevant as Viet Nam seeks to balance the goals of sustainable development, energy security, and social equity in its ongoing green transition. The ESAM's ability to quantify both economic and environmental outcomes makes it indispensable for designing policies that are not only effective in reducing emissions but also fair and inclusive in their distributional impacts.

In addition to the analyses of energy intensity and multiplier effects, the detailed integration of data on the consumption volume and monetary costs of electricity has highlighted a crucial structural characteristic of Viet Nam's energy market: the disparity and cross-subsidization of electricity prices among economic sectors. The results from the ESAM reveal an asymmetrical picture, where the Industry and Construction sector, despite being the most electricity-intensive

(accounting for over 56% of the total volume), enjoys a relatively low average price; conversely, the Service sector bears the highest unit cost, while the Household sector has access to the lowest average price. This further affirms the value of the 2019 ESAM database as an essential tool for designing, simulating, and evaluating green transition scenarios, ensuring that Viet Nam's pathway toward a low-carbon economy is not only environmentally effective but also ensures socio-economic equity and resilience.

Looking ahead, the 2019 ESAM should be further expanded and updated to reflect future changes in Viet Nam's energy and economic structure. Regular updates and extensions to the ESAM will ensure that researchers and policymakers have access to timely and reliable data for evidence-based policy analysis. Additionally, integrating the ESAM with other specialized datasets, such as regional energy balances, sector-specific emission inventories, or household energy consumption surveys, would further enhance its analytical potential.

In conclusion, the 2019 Energy Social Accounting Matrix represents a significant advancement in Viet Nam's data infrastructure for energy and climate policy analysis. It offers an unprecedented level of detail on the interlinkages between energy use, greenhouse gas emissions, and the broader economy. By enabling rigorous simulations of policy interventions such as carbon taxes, renewable energy promotion, and green transition pathways, the 2019 ESAM can make a crucial contribution to Viet Nam's evidence-based policymaking. Ultimately, this dataset will help ensure that the country's path toward a low-carbon economy is not only environmentally sustainable but also socially just and economically resilient.

APPENDICES

Appendix 1 – List of activities and commodities of the 2019 ESAM

No.	Code			Sector name
1	a_001	c_001	1	Paddy
2	a_002	c_002	2	Corn and other grain food products
3	a_003	c_003	3	Root crop products contain starch
4	a_004	c_004	4	Oil-bearing plant products
5	a_005	c_005	5	Fresh sugar cane
6	a_006	c_006	6	Vegetables, beans of all kinds
7	a_007	c_007	7	Annual flower products
8	a_008	c_008	8	Other remaining annual crop products
9	a_009	c_009	9	Fruit tree products
10	a_010	c_010	10	Dried cashews
11	a_011	c_011	11	Pepper seeds
12	a_012	c_012	12	Dried latex
13	a_013	c_013	13	Coffee beans
14	a_014	c_014	14	Fresh tea buds, fresh tea leaves
15	a_015	c_015	15	Other remaining perennial plant products
16	a_016	c_016	16	Buffalo and cow livestock products
17	a_017	c_017	17	Pig farming products
18	a_018	c_018	18	Poultry products
19	a_019	c_019	19	Other remaining livestock products
20	a_020	c_020	20	Agricultural services
21	a_021	c_021	21	Hunting and trapping products and related services
22	a_022	c_022	22	Other agricultural products have not been classified yet
23	a_023	c_023	23	Forest planting and care products and forestry seedlings
24	a_024	c_024	24	Harvested wood
25	a_025	c_025	25	Other exploited and collected forest products except wood
26	a_026	c_026	26	Forestry services
27	a_027	c_027	27	Marine aquatic products
28	a_028	c_028	28	Inland exploited aquatic products
29	a_029	c_029	29	Marine aquaculture products
30	a_030	c_030	30	Catfish
31	a_031	c_031	31	White leg shrimp, Black tiger shrimp
32	a_032	c_032	32	Other inland aquaculture products

No.	Code			Sector name
33	a_033	c_033	33	Domestic aquatic breeds
34	a_034	c_034	34	Hard coal and lignite
35	a_035	c_035	35	Crude oil extraction
36	a_036	c_036	36	Gaseous or liquefied natural gas
37	a_037	c_037	37	Metal ores and metal concentrates
38	a_038	c_038	38	Stone, sand, gravel, clay
39	a_039	c_039	39	Mining products have not been classified yet
40	a_040	c_040	40	Mining support services
41	a_041	c_041	41	Products processed and preserved meat and meat products
42	a_042	c_042	42	Livestock and poultry slaughtering services
43	a_043	c_043	43	Aquatic products and processed and preserved aquatic products
44	a_044	c_044	44	Processed vegetables and fruits
45	a_045	c_045	45	Processed animal and vegetable oils and fats
46	a_046	c_046	46	Milk and dairy products
47	a_047	c_047	47	Milling products and flour production
48	a_048	c_048	48	Sugar, honey
49	a_049	c_049	49	Cocoa, chocolate and confectionery; bakery products from flour
50	a_050	c_050	50	Dishes, prepared foods
51	a_051	c_051	51	Coffee
52	a_052	c_052	52	Tea
53	a_053	c_053	53	Other remaining foods (pasta, noodles and similar products; other foods not yet classified)
54	a_054	c_054	54	Feed for livestock, poultry and aquatic products
55	a_055	c_055	55	Wine of all kinds
56	a_056	c_056	56	Beer
57	a_057	c_057	57	Non-alcoholic drinks, mineral water, purified water
58	a_058	c_058	58	Tobacco products
59	a_059	c_059	59	Yarn, woven fabric and finished textile products
60	a_060	c_060	60	Other textile products
61	a_061	c_061	61	All types of clothing include clothing made of woven, knitted, crocheted fabrics, leather, synthetic leather, and fur.
62	a_062	c_062	62	Leather, pre-processed; suitcases, handbags, saddle cushions; preliminary and dyed fur skins
63	a_063	c_063	63	Shoes and sandals

No.	Code			Sector name
64	a_064	c_064	64	Wood processing products and products from wood, bamboo (except beds, cabinets, tables, chairs); of straw, thatch and plaiting materials
65	a_065	c_065	65	Paper and paper products
66	a_066	c_066	66	Printing and copying services of all types
67	a_067	c_067	67	Coke
68	a_068	c_068	68	Fuel oil and gasoline; lubricants
69	a_069	c_069	69	Remaining petroleum products
70	a_070	c_070	70	Basic chemicals
71	a_071	c_071	71	Fertilizers and nitrogen compounds
72	a_072	c_072	72	Plastic and synthetic rubber in primary forms
73	a_073	c_073	73	Pesticides and other chemical products used in agriculture
74	a_074	c_074	74	Other chemical products; synthetic fibres, artificial fibres
75	a_075	c_075	75	Medicines of all kinds; pharmaceutical chemistry and medicinal materials
76	a_076	c_076	76	Products from rubber
77	a_077	c_077	77	Products from plastic
78	a_078	c_078	78	Glass and products from glass
79	a_079	c_079	79	Refractory products; construction material products from clay; other ceramic products
80	a_080	c_080	80	Cement of all kinds
81	a_081	c_081	81	Uncategorized non-metallic mineral products (except cement; bricks, tiles, paving stones and baked clay construction products)
82	a_082	c_082	82	Cast iron, iron and steel products
83	a_083	c_083	83	Non-ferrous metal products, precious metals and metal casting services
84	a_084	c_084	84	Prefabricated metal products (except machinery and equipment)
85	a_085	c_085	85	Electronic components products; computer and computer peripheral equipment; communication equipment
86	a_086	c_086	86	Consumer electronic products
87	a_087	c_087	87	Measurement, testing, navigation and control equipment; clock; radiation equipment, medical electronic equipment, electrotherapy; optical equipment and instruments; tape, magnetic and optical disks
88	a_088	c_088	88	Motors, generators, power transformers, power distribution and control equipment
89	a_089	c_089	89	Batteries and accumulators
90	a_090	c_090	90	Wires and wiring equipment

No.	Code			Sector name
91	a_091	c_091	91	Electrical lighting equipment
92	a_092	c_092	92	Household electrical appliances (family refrigerators, dishwashers, washing machines, vacuum cleaners, etc.)
93	a_093	c_093	93	Other electrical equipment
94	a_094	c_094	94	Common machine
95	a_095	c_095	95	Specialized machine
96	a_096	c_096	96	Cars of all kinds
97	a_097	c_097	97	Remaining motor vehicles (except cars of all kinds), car bodies and other motor vehicles, trailers and semi-trailers; spare parts and accessories for cars and other motor vehicles
98	a_098	c_098	98	Ships and boats; Locomotives, trams and rolling stock; aircraft, spacecraft and related machinery, combat vehicles used in the military
99	a_099	c_099	99	Motorcycles, motorbikes
100	a_100	c_100	100	Other means of transport remain
101	a_101	c_101	101	Bed, wardrobe, table, chair
102	a_102	c_102	102	Jewellery, imitation jewellery and related details; musical instrument; sports instruments; toys, games
103	a_103	c_103	103	Medical, dental, orthopaedic and rehabilitation equipment and instruments
104	a_104	c_104	104	Other processing and manufacturing products not yet classified
105	a_105	c_105	105	Repair, maintenance and installation services of machinery and equipment
106	a_106	x	x	Hydropower
107	a_107	x	x	Coal thermal power
108	a_108	x	x	Gas thermal power
109	a_109	x	x	Wind electricity
110	a_110	x	x	Solar power
111	a_111	c_106	x	Other electricity
112	a_112	c_107	107	Electricity transmission service
113	a_113	c_108	108	Electricity distribution service
114	a_114	c_109	109	Gas, gas fuel distribution services by pipeline
115	a_115	c_110	110	Steam, hot water, ice; steam, hot water, ice and air conditioning distribution services by pipes
116	a_116	c_111	111	Natural water is exploited
117	a_117	c_112	112	Drainage and wastewater treatment services
118	a_118	c_113	113	Waste collection, treatment and destruction services; scrap recycling

No.	Code			Sector name
119	a_119	c_114	114	Pollution treatment services and other waste management activities
120	a_120	c_115	115	House to live in
121	a_121	c_116	116	Other types of houses and house construction services
122	a_122	c_117	117	Railways, railway construction services
123	a_123	c_118	118	Road works, road construction services
124	a_124	c_119	119	Public works and construction services of public works and other civil engineering works
125	a_125	c_120	120	Specialized construction services
126	a_126	c_121	121	Services selling cars, motorbikes, motorbikes and other motor vehicles
127	a_127	c_122	122	Car, motorbike, motorbike and other motor vehicle repair services
128	a_128	c_123	123	Commercial services
129	a_129	c_124	124	Railway passenger transport service
130	a_130	c_125	125	Railway freight transport services
131	a_131	c_126	126	Bus transport services, other road passenger transport services
132	a_132	c_127	127	Freight transport services by road, pipeline transport services
133	a_133	c_128	128	Waterway passenger transport service
134	a_134	c_129	129	Waterway cargo transportation services
135	a_135	c_130	130	Air passenger transportation services
136	a_136	c_131	131	Air cargo transportation services
137	a_137	c_132	132	Warehousing services and transportation support activities
138	a_138	c_133	133	Postal and delivery services
139	a_139	c_134	134	Lodging
140	a_140	c_135	135	Food service
141	a_141	c_136	136	Publishing activities
142	a_142	c_137	137	Film services, television program production, recording and music publishing
143	a_143	c_138	138	Radio and television broadcasting services
144	a_144	c_139	139	Telecommunication services
145	a_145	c_140	140	Computer programming services, consulting services and other activities related to computers
146	a_146	c_141	141	Other information services
147	a_147	c_142	142	Financial services (except insurance and social insurance)
148	a_148	c_143	143	Life insurance and life reinsurance services
149	a_149	c_144	144	Non-life insurance and non-life reinsurance services

No.	Code			Sector name
150	a_150	c_145	145	Other financial services
151	a_151	c_146	146	Real estate business services
152	a_152	c_147	147	Legal, accounting and auditing services
153	a_153	c_148	148	Services of office headquarters; management consulting services
154	a_154	c_149	149	Architectural services; technical testing and analysis
155	a_155	c_150	150	Scientific research and technology development services
156	a_156	c_151	151	Advertising and market research services
157	a_157	c_152	152	Other professional, scientific and technological services
158	a_158	c_153	153	Veterinary services
159	a_159	c_154	154	Machinery and equipment rental service (without operator); rental of personal and household items; leasing non-financial intangible assets
160	a_160	c_155	155	Labour and employment services
161	a_161	c_156	156	Services of travel agencies, tour businesses and support services, related to promotion and organization of tours
162	a_162	c_157	157	Investigation services ensure safety
163	a_163	c_158	158	House, construction and landscape cleaning services
164	a_164	c_159	159	Administrative services, office support and other business support activities
165	a_165	c_160	160	Services of the Communist Party, socio-political organizations, state management, national security and defence and compulsory social security
166	a_166	c_161	161	Education and training (except college, university and postgraduate training)
167	a_167	c_162	162	College, university and postgraduate training services
168	a_168	c_163	163	Health services
169	a_169	c_164	164	Centralized care and nursing services
170	a_170	c_165	165	Social support services are not centralized
171	a_171	c_166	166	Creative, artistic and entertainment services
172	a_172	c_167	167	Services of libraries, archives, museums and other cultural activities
173	a_173	c_168	168	Lottery, betting and gambling services
174	a_174	c_169	169	Sports, entertainment and recreation services
175	a_175	c_170	170	Services of other associations and organizations
176	a_176	c_171	171	Computer repair service, personal and household appliances
177	a_177	c_172	172	Other personal services
178	a_178	c_173	173	Household chores service for households

Appendix 2 – Codes of the other accounts in the 2019 ESAM

No.	Codes	Label
1	flab-u-t	Labour - Urban – tertiary and higher
2	flab-u-s	Labour - Urban – secondary
3	flab-u-p	Labour - Urban – primary
4	flab-r-t	Labour - Rural - tertiary and higher
5	flab-r-s	Labour - Rural – secondary
6	flab-r-p	Labour - Rural – primary
7	fcap-ag	Capital – Agricultural
8	fcap-na	Capital - Non-agricultural
9	flnd	Land
10	fliv	Livestock capital
11	ffsh	Fish capital
12	ent-ag	Agricultural enterprises
13	ent-na	Non-agricultural enterprises
14	hhd-uf1	Households - Urban - Agricultural - Quintile 1 (Lowest)
15	hhd-uf2	Households - Urban - Agricultural - Quintile 2
16	hhd-uf3	Households - Urban - Agricultural - Quintile 3
17	hhd-uf4	Households - Urban - Agricultural - Quintile 4
18	hhd-uf5	Households - Urban - Agricultural - Quintile 5 (Highest)
19	hhd-un1	Households - Urban - Non-agricultural - Quintile 1
20	hhd-un2	Households - Urban - Non-agricultural - Quintile 2
21	hhd-un3	Households - Urban - Non-agricultural - Quintile 3
22	hhd-un4	Households - Urban - Non-agricultural - Quintile 4
23	hhd-un5	Households - Urban - Non-agricultural - Quintile 5
24	hhd-rf1	Households - Rural - Agricultural - Quintile 1
25	hhd-rf2	Households - Rural - Agricultural - Quintile 2
26	hhd-rf3	Households - Rural - Agricultural - Quintile 3
27	hhd-rf4	Households - Rural - Agricultural - Quintile 4
28	hhd-rf5	Households - Rural - Agricultural - Quintile 5
29	hhd-rn1	Households - Rural - Non-agricultural - Quintile 1
30	hhd-rn2	Households - Rural - Non-agricultural - Quintile 2
31	hhd-rn3	Households - Rural - Non-agricultural - Quintile 3
32	hhd-rn4	Households - Rural - Non-agricultural - Quintile 4
33	hhd-rn5	Households - Rural - Non-agricultural - Quintile 5
34	gov	Government
35	atax	Activity tax

No.	Codes	Label
36	ftax	Factor tax
37	dtax	Direct tax
38	mtax	Import tax
39	stax	Sales tax
40	s-i	Savings – Investment
41	dstk	Change in stocks
42	row	Rest of the world
43	total	Total

Appendix 3 – Mapping of taxes in the 2019 ESAM and state budget revenue items

No.	Types of taxes in the 2019 ESAM	Mapping with the MOF's data on the state budget revenue
1	Activity tax	License tax, natural resource tax
2	Sales tax	Value-added tax, special consumption tax on domestic goods and services
3	Import tax	Import tax, special consumption tax on imports
4	Factor tax	Tax on land-use right transfer, agricultural land-use tax, tax on transfer of property, other fees and charges
5	Direct tax	Corporate income tax, individual income tax, and land and housing tax

Appendix 4 - Mapping of 178 ESAM sectors and 46 sectors in energy/emission accounts

Description of Energy Account Industry	Code of ESAM 2019 Industry	Description of ESAM 2019 Industry
Crop	001	Paddy
Crop	002	Corn and other grain food products
Crop	003	Root crop products contain starch
Crop	004	Oil-bearing plant products
Crop	005	Fresh sugar cane
Crop	006	Vegetables, beans of all kinds
Crop	007	Annual flower products
Crop	008	Other remaining annual crop products
Crop	009	Fruit tree products
Crop	010	Dried cashews
Crop	011	Pepper seeds
Crop	012	Dried latex
Crop	013	Coffee beans
Crop	014	Fresh tea buds, fresh tea leaves
Crop	015	Other remaining perennial plant products
Livestock	016	Buffalo and cow livestock products
Livestock	017	Pig farming products
Livestock	018	Poultry products
Livestock	019	Other remaining livestock products
Oth srv	020	Agricultural services
Livestock	021	Hunting and trapping products and related services
Crop	022	Other agricultural products have not been classified yet
Forestry	023	Forest planting and care products and forestry seedlings
Forestry	024	Harvested wood
Forestry	025	Other exploited and collected forest products except wood
Oth srv	026	Forestry services
Fishing	027	Marine aquatic products
Fishing	028	Inland exploited aquatic products
Fishing	029	Marine aquaculture products
Fishing	030	Catfish
Fishing	031	White leg shrimp, black tiger shrimp
Fishing	032	Other inland aquaculture products
Fishing	033	Domestic aquatic breeds
Coal mining	034	Hard coal and lignite

Crude oil exploration	035	Crude oil extraction
Nat gas exploration	036	Gaseous or liquefied natural gas
Other mining	037	Metal ores and metal concentrates
Other mining	038	Stone, sand, gravel, clay
Other mining	039	Mining products have not been classified yet
Oth srv	040	Mining support services
Meat & fish processing	041	Products processed and preserved meat and meat products
Meat & fish processing	042	Livestock and poultry slaughtering services
Meat & fish processing	043	Aquatic products and processed and preserved aquatic products
Other food processing	044	Processed vegetables and fruits
Other food processing	045	Processed animal and vegetable oils and fats
Other food processing	046	Milk and dairy products
Processed grain prods	047	Milling products and flour production
Other food processing	048	Honey
Processed grain prods	049	Cocoa, chocolate and confectionery; bakery products from flour
Other food processing	050	Dishes, prepared foods
Other food processing	051	Coffee
Other food processing	052	Tea (tea)
Processed grain prods	053	Other remaining foods (pasta, noodles and similar products; other foods not yet classified)
Other food processing	054	Feed for livestock, poultry and aquatic products
Other food processing	055	Wine of all kinds
Other food processing	056	Beer
Other food processing	057	Non-alcoholic drinks, mineral water, purified water
Other food processing	058	Tobacco products
Text, cloth, leath & footw	059	Yarn, woven fabric and finished textile products
Text, cloth, leath & footw	060	Other textile products
Text, cloth, leath & footw	061	All types of clothing include clothing made of woven, knitted, crocheted fabrics, leather, synthetic leather, and fur.
Text, cloth, leath & footw	062	Leather, pre-processed; suitcases, handbags, saddle cushions; preliminary and dyed fur skins
Text, cloth, leath & footw	063	Shoes and sandals
Wood products	064	Wood processing products and products from wood, bamboo (except beds, cabinets, tables, chairs); of straw, thatch and plaiting materials
Paper products	065	Paper and paper products
Paper products	066	Printing and copying services of all types

Coke over and fuel prods	067	Coke
Coke over and fuel prods	068	Fuel oil and gasoline; lubricants
Coke over and fuel prods	069	Remaining petroleum products
Chem & plast prods	070	Basic chemicals
Chem & plast prods	071	Fertilizers and nitrogen compounds
Chem & plast prods	072	Plastic and synthetic rubber in primary forms
Chem & plast prods	073	Pesticides and other chemical products used in agriculture
Chem & plast prods	074	Other chemical products; synthetic fibres, artificial fibres
Chem & plast prods	075	Medicines of all kinds; pharmaceutical chemistry and medicinal materials
Chem & plast prods	076	Products from rubber
Chem & plast prods	077	Products from plastic
Non-met prods	078	Glass and products from glass
Non-met prods	079	Refractory products; construction material products from clay; other ceramic products
Cement	080	Cement of all kinds
Non-met prods	081	Uncategorized non-metallic mineral products (except cement; bricks, tiles, paving stones and baked clay construction products)
Metal prods	082	Cast iron, iron and steel products
Metal prods	083	Non-ferrous metal products, precious metals and metal casting services
Metal prods	084	Prefabricated metal products (except machinery and equipment)
Electrical mach	085	Electronic components products; computer and computer peripheral equipment; communication equipment
Electrical mach	086	Consumer electronic products
Electrical mach	087	Measurement, testing, navigation and control equipment; clock; radiation equipment, medical electronic equipment, electrotherapy; optical equipment and instruments; tape, magnetic and optical disks
Electrical mach	088	Motors, generators, power transformers, power distribution and control equipment
Electrical mach	089	Batteries and accumulators
Electrical mach	090	Wires and wiring equipment
Electrical mach	091	Electrical lighting equipment
Electrical mach	092	Household electrical appliances (family refrigerators, dishwashers, washing machines, vacuum cleaners, etc.)
Electrical mach	093	Other electrical equipment
Machinery	094	Common machine
Machinery	095	Specialized machine
Transp equipm	096	Cars of all kinds

Transp equipm	097	Remaining motor vehicles (except cars of all kinds), car bodies and other motor vehicles, trailers and semi-trailers; spare parts and accessories for cars and other motor vehicles
Transp equipm	098	Ships and boats; locomotives, trams and rolling stock; aircraft, spacecraft and related machinery, combat vehicles used in the military
Transp equipm	099	Motorcycles, motorbikes
Transp equipm	100	Other means of transport remain
Other manf	101	Bed, wardrobe, table, chair
Other manf	102	Jewellery, imitation jewellery and related details; musical instrument; sports Instruments; toys; games
Other manf	103	Medical, dental, orthopaedic and rehabilitation equipment and instruments
Other manf	104	Other processing and manufacturing products, not yet classified
Other manf	105	Repair, maintenance and installation services of machinery and equipment
Electr hydro	106	Hydropower
Electr coal	107	Coal thermal power
Electr gas	108	Gas thermal power
Electr wind	109	Wind electricity
Electr solar	110	Solar electricity
Electr other	111	Other electricity
Electr transm & distrb	112	Electricity transmission service
Electr transm & distrb	113	Electricity distribution service
Water, gas & waste	114	Gas, gas fuel distribution services by pipeline
Water, gas & waste	115	Steam, hot water, ice; steam, hot water, ice and air conditioning distribution services by pipes
Water, gas & waste	116	Natural water is exploited
Water, gas & waste	117	Drainage and wastewater treatment services
Water, gas & waste	118	Waste collection, treatment and destruction services; scrap recycling
Water, gas & waste	119	Pollution treatment services and other waste management activities
Construction	120	House to live in
Construction	121	Other types of houses and house construction services
Construction	122	Railways, railway construction services
Construction	123	Roadworks, road construction services
Construction	124	Public works and construction services of public works and other civil engineering works
Construction	125	Specialized construction services
Whsale & retail	126	Services selling cars, motorbikes, motorbikes and other motor vehicles
Whsale & retail	127	Car, motorbike, motorbike and other motor vehicle repair services

Whsale & retail	128	Commercial services
Whsale & retail	129	Railway passenger transport service
Lnd transp persons	130	Railway freight transport services
Lnd transp freight	131	Bus transport services, other road passenger transport services
Freight transport services by road, pipeline transport services Lnd transp freight	132	Freight transport services by road, pipeline transport services
Water transport	133	Waterway passenger transport service
Water transport	134	Waterway cargo transportation services
Water transport	135	Air passenger transportation services
Air transport	136	Air cargo transportation services
Air transport	137	Warehousing services and transportation support activities
Srv to trnsp + whous	138	Postal and delivery services
Accommodation	139	Lodging
Accommodation	140	Food service
Comms srv	141	Publishing service
Comms srv	142	Film services, television program production, recording and music publishing
Comms srv	143	Radio and television broadcasting services
Comms srv	144	Telecommunication services
Comms srv	145	Computer programming services, consulting services and other activities related to computers
Comms srv	146	Other information services
Fin srv	147	Financial services (except insurance and social insurance)
Fin srv	148	Life insurance and life reinsurance services;
Fin srv	149	Non-life insurance and non-life reinsurance services
Fin srv	150	Other financial services
Buss srv	151	Real estate business services
Buss srv	152	Legal, accounting and auditing services
Buss srv	153	Services of office headquarters; management consulting services
Buss srv	154	Architectural services; Technical testing and analysis
Buss srv	155	Scientific research and technology development services
Buss srv	156	Advertising and market research services
Buss srv	157	Other professional, scientific and technological services
Buss srv	158	Veterinary services
Buss srv	159	Machinery and equipment rental service (without operator); rental of personal and household items; leasing non-financial intangible assets

Buss srv	160	Labour and employment services
Buss srv	161	Services of travel agencies, tour businesses and support services related to promotion and organization of tours
Buss srv	162	Investigation services ensure safety
Buss srv	163	House, construction and landscape cleaning services
Buss srv	164	Administrative services, office support and other business support activities
Publ admin	165	Services of the Communist Party, socio-political organizations, state management, national security and defence and compulsory social security
Education	166	Education and training (except college, university and postgraduate training)
Education	167	College, university and postgraduate training services
Health & soc srv	168	Health services
Health & soc srv	169	Centralized care and nursing services
Health & soc srv	170	Social support services are not centralized
Oth srv	171	Creative, artistic and entertainment services
Oth srv	172	Services of libraries, archives, museums and other cultural activities
Oth srv	173	Lottery, betting and gambling services
Oth srv	174	Sports, entertainment and recreation services
Oth srv	175	Services of other associations and organizations
Oth srv	176	Computer repair service, personal and household appliances
Oth srv	177	Other personal services
Oth srv	178	Household chores service for households