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Environmental sustainability and job creation: a SAM-based approach for Cameroon

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ABSTRACT

Much debate has focused on the relationship between economic activities and the social and environmental impacts. This article introduces a new and environmentally extended Social Accounting Matrix for Cameroon. The SAM for 2016 has been built on the National Accounts data with the combination of employment data derived by various Households and Labour force surveys, and CO2 emissions accounts has been obtained from official reports and statistics. Based on SAM linear multiplier analysis, the aim of this article is to identify the key sectors for which final demand is most conducive to job creation but also to illustrate the corresponding employment intensity of emissions. In this sense, the 'employment intensity of carbon' is computed and used as an indicator that shows the amount of employment associated to CO2 emitted by the production of goods and services. At a later stage, presented how a target of environmental sustainability expressed as a potential CO2 emission reduction goal, as pledged in the latest Nationally Determined Contribution, can be achieved and its implications on the employment change.

Keywords: CO_2 emissions, Employment impacts, Social Accounting Matrix, Multipliers, Cameroon.

[1] The views expressed are purely those of the authors and may not in any circumstances be regarded as stating an official position of the European Commission.

1. INTRODUCTION

Cameroon's development strategy centers on the Sustainable Development Goals (SDGs) promoted by the United Nations in 2015 (United Nations, 2015). The strategy focuses on economic growth, formal job creation and poverty reduction. Considering the goal number 8, the Government intends to increase growth to 5.6% on an annual average in the period 2021-2030; reduce underemployment from 75.8% to 50.1% in 2030 with the creation of tens of thousands of formal jobs per year over the next ten years and reduce the monetary poverty rate from 37.5% in 2014 to 30.8% in 2030 (Institut National de la Statistique, 2021b). Furthermore, in order to promote SDGs related to the environment, e.g., number 13, the Government of Cameroon has published a national strategy "Cameroon's National Climate Change Adaptation Plan" (PNACC: Plan National d'Adaptation aux Changements Climatiques) which provides a framework to guide the coordination and implementation of adaptation initiatives to adapt to climate change in Cameroon. It has also created a National Climate Change Observatory (Observatoire National sur les Changements Climatiques: ONACC), with the main objective of monitoring and evaluating the socio-economic and environmental impacts of climate change and proposing measures to prevent, mitigate and/or adapt to the effects associated with these changes (Institut National de la Statistique, 2021b; MINEPDED, 2015). Moreover, the "Contribution prevue determine au plan national (2015)" shows that Cameroon´s goal is to reduce its GHG emissions by 32% by 2035. As mentioned by Engo (2018), CO2 is the most emitted greenhouse gas in Cameroon, making it the largest emitter of CO2 in the subregion of the Economic and Monetary Community of Central Africa (CEMAC).

In this sense, the literature shows linkages between informality and economic growth, related with income inequality, lower GDP and reduction of international trade (Bacchetta et al., 2009). To this end, actions should focus on promoting suitable commodities to drive economic growth, while taking into account carbon emissions mitigation and the job creation. To promote the expected development, these policies must be based on knowledge and analysis of the sectors and agents of the economy and the linkages between them. Hence, the analysis of the Cameroonian economy requires a specific database that provide a description of the activities and commodities and labour factor, considering the interlinkage between all agents, as well as data related to the jobs and carbon emissions associate with each activity.

The Social Accounting Matrix (SAM) allows for an analysis of the linkages among sectors and all other agents and accounts of an economic system. To this end, the aim of this study is to construct a a new and environmentally extended Social Accounting Matrix (SAM) for Cameroon with the main purpose of providing a suitable database for implementing and evaluating the country's own developmental, social and economic policies and initiatives. In this sense, the structure of the SAM and a descriptive analysis of the Cameroonian economy is presented in detail. Furthermore, a multiplier analysis allows to link changes in the demand side of the economy to changes in output, factor incomes, household incomes and employment (Arndt et al., 2000). The analysis of the multipliers ranks commodities according to their capacity to generate economic growth and identifies those sectors that should receive more attention from policies. Multipliers allow knowing, for example, how much output will be generated in the economy and in each activity due to exogenous shocks, how many jobs will be created and the effect of the shock on the CO2 emissions of each sector (DiPasquale & Polenske, 1980). Therefore, in this paper the multipliers analysis has been applied to this SAM to estimate socio-economic and environmental impacts of potential final demand policies in the Cameroonian economy in each commodity, measured by the variation on the output of the activities, the value added generated in the economy, the jobs created and the CO2 emissions of each sector (Miller & Blair, 2009).

To analyse these impacts, the output, employment, value-added and emissions multipliers will be calculated.

In particular, the results seek to identify the key-sectors sectors for which final demand is most conducive to generate output, employment and value added in the rest of the economy, but also illustrate the corresponding CO_2 emissions intensity related with those sectors. In this sense, the indicator of employment intensity of carbon is calculated to determine to what extend the employment generation within some sectors might be related with an increase CO_2 emissions.

Therefore, this paper aims at addressing a specific policy target for Cameroon: how the job creation goal generated by the demand increase can be translated in CO_2 emissions. At a second stage we will consider how a target of environmental sustainability expressed as a potential CO_2 emission reduction goal, as pledged in the latest Nationally Determined Contribution, can be achieved and its implications on the employment change.

The first SAM for Cameroon was published for 1984-85 (Gauthier & Kyle, 1990) and has been used with CGE models for the analysis of income distribution (Benjamin, 1996) and the impact of change in tax-regulation system on informal sectors (Fortin et al., 1997). Moreover, the same accounting scheme was used for the analysis of structural adjustment packages with a mixed multiplier framework (Rich et al., 1997). Later, the SAM for 2005 was considered to study the relation of creative industries and youth employment (Nguena, 2013). The employment and informal sector have been studied using the SAM for 2008 (Djomo et al., 2014) and 2010 (Djomo et al., 2016). More recently, a 2014 SAM was employed to analyse the impact of COVID-19 pandemic on employment with a CGE model (Madai Boukar et al., 2021).

The 2016 SAM for Cameroon proposed in this study is built on the National Accounts data, as well as microdata provided by the Fourth Cameroonian Household Survey (2014), the Supplementary Survey to the Fourth Cameroon Household Survey (2016) and the Second Survey on Employment and the Informal Sector (2010) (Institut National de la Statistique, 2011, 2015, 2017). The data related to the CO2 emissions were obtained from GTAP-E Data Base. The GTAP-E Data Base provides carbon dioxide (CO2) emissions data distinguished by fuel and by user for each of the 141 countries/regions in the GTAP 10 Data Base.

The rest of the paper is structured as follows. Section two introduces the SAM for Cameroon 2016 and describes the multiplier methodology employed for the economic impact analysis. This section explains explaining each multiplier type to show the usefulness of SAMs in policy impact assessment. The results in section three show the multiplier effects to assess the impact of final demand shocks on the economy in terms of output, value added, employment and emissions. Finally, section four presents the conclusions and policy recommendations.

2. DATA AND METHODOLOGY

The results obtained in the *Second Survey on Employment and the Informal Sector* (EESI 2) showed that the labour market in Cameroon is characterised by the predominance of the informal sector representing around 85-90% of occupied active persons, highlighting the agricultural informal sector (53%) and non-agricultural informal sector (37.5%). The distribution of labour income is characterised by a predominance of low incomes, especially in the agricultural informal sector and rural areas, resulting in higher poverty ratios in rural areas (Institut National de la Statistique, 2011).

According to the International Labour Organization (ILO), climate change will impact negatively on employment. Extreme weather events, for example, can have an impact on job losses, labour productivity and business interruption. These events will mostly impact the employed poor (e.g. in the informal sector), in the least developed countries and in the most resource- and climate-dependent economic sectors. Indeed, climate change mitigation and the transition to a low-carbon economy can positively affect employment.

2.1 Cameroon SAM for 2016

A SAM is a comprehensive, economy-wide database to represent all the economic transactions carried out among the agents of a specific economy over a period, generally one year. The richness of the information available in the SAM allows for an analysis of the linkages among sectors and all other agents and accounts of an economy. Therefore, is a very useful tool to understand the structure of an economy and a suitable database for economic modelling allowing the calculation of multipliers or the application of Computable General Equilibrium (CGE) models (Burfisher, 2016; Round, 2003).

The SAM scheme is represented by a square matrix, where each cell (*i*, *j*) shows the transaction between account *i* and *j*, in which account *i* receives income from *j*. For the construction of the SAM for Cameroon for 2016, it was required the use of many statistical sources, mainly the statistical systems of National Accounts, data on trade, as well as socio-economic data related to household income, employment and expenditure that was obtained from surveys as the Fourth Cameroonian Household Survey (2014), the Supplementary Survey to the Fourth Cameroon Household Survey (2016) and the Second Survey on Employment and the Informal Sector (2010) (Institut National de la Statistique, 2011, 2015, 2017). This Social Accounting Matrix has six basic groups of accounts: 48 Activities and 48 Commodities, 3 Primary factors, 6 Institutional sectors (including Private Institutions as Households, Non-Profit Institutions serving Households, Corporations/Enterprises, and Public Institution as the Government), 2 Capital accounts and the Rest of the World.

Table 1 . The Macro synthesis of the main accounts in the 2016 SAM for Cameroon

	Commodities	Industries	Value Added	Taxes-subsides	Institutional sectors	Saving/ Investment	Rest of the World	Total
Commodities		10,341,261			16,616,103	3,971,254	3,797,304	34,725,922
Industries	28,744,934							28,744,934
Value Added		18,403,673					53,512	18,457,185
Taxes-subsides	1,634,893							1,634,893
Institutional sectors			18,436,485	1,634,893	3,941,412		470,373	24,483,163
Saving/ Investment					3,262,964		708,290	3,971,254
Rest of the World	4,346,095		20,700		662,684			5,029,479
Total	34,725,922	28,744,934	18,457,185	1,634,893	24,483,163	3,971,254	5,029,479	

Source: Own elaboration

2.2 Methodology

As to explore the richness this framework, a SAM-based model is then developed to compute an in-depth analysis of multipliers effects. This approach is based on the input-output theory established by Leontief (1951), the system of national accounts (SNA) by Stone (1961) and the extended Input-Output model proposed by Miyazawa (1976) and further developed by Pyatt and Round (1979).

By proposing the SAM/SNA framework as a reference scheme, the analysis also considers along with the direct and indirect effects, the induced ones, derived by the income generation impacts (e.g. labour payments and the associated consumer expenditures on goods produced by the various sectors) (Miller & Blair, 2009). The results of the static model will be expressed in terms of employment generated by industry and linked with the related CO_2 emissions.

Following Miller and Blair (2009) the main equation of the SAM-based model is:

$$\bar{x} = S\,\bar{x} + \bar{f} \tag{1}$$

With the vector $\bar{x}$ defined as:

$$\bar{x} = \begin{bmatrix} q \\ x \\ v \\ y \end{bmatrix} \tag{2}$$

where q is the vector of total sector outputs by commodity, x is the vector of total sector outputs by industry, v is the vector of total value-added inputs, and y is the vector of total household income. As this modelling framework keep separated commodities and industries, the content of the coefficient matrix S is introduced as follows:

$$S = \begin{bmatrix} 0 & D & 0 & C \\ B & 0 & 0 & 0 \\ 0 & V & 0 & T \\ 0 & 0 & Y & H \end{bmatrix} \tag{3}$$

where D and B are, respectively, the use technical coefficients matrix and the share matrix, C is the matrix of endogenous final expenditure coefficients, V and T represent the matrix of endogenous value added and net taxes on products input shares, Y is the matrix of endogenous coefficients distributing income to value-added categories and H is the matrix of endogenous coefficients for distributing institution and household income.

The exogenous final demand vector can be expressed as:

$$\bar{f} = \begin{bmatrix} f \\ 0 \\ w \\ h \end{bmatrix} \tag{4}$$

With f being the vector of exogenous demand by commodity, w the vector of value-added inputs and h the vector of household income categories which are exogenously specified.

Round (1988) observed that most often in construction of SAMs used for modelling, and in particular when calculating the multipliers, the Government, Capital, and “Rest of World” accounts are considered to be exogenous; in our case only Capital and ”Rest of World” accounts are exogenously specify.

Alternatively, equation 1 can be express in its reduced form as follows:

$$\bar{x} = [I - S]^{-1}\,\bar{f} \quad (5)$$

Where the standard representation of the multipliers matrix is as follows: $\mathbf{M} = [\mathbf{I} - \mathbf{S}]^{-\mathbf{1}}$, and each element m_{ij} in $\mathbf{M}$ shows the requirements of account i to increase the final demand of account j by one monetary unit. The output multiplier is calculated considering the sum of the multiplier values of the commodities column of $\mathbf{M}_a$. The output multiplier indicates the amount of output in all the activities of the economy needed to satisfy one unit of demand increase for the corresponding commodity (generated as a result of a unitary exogenous shock in exogenous values for the corresponding commodity).

Solving the model for the employment, after having defined the vector of employment-to-output ratio, e, we get:

$$e\bar{x} = e[I - S]^{-1}\,\bar{f} \quad (6)$$

The employment multiplier provides the number of jobs generated by an exogenous shock in final demand, being a very useful indicators of the commodities with a greater potential to generate jobs.

Similarly, in order to obtain the CO_2 emissions, a vector g that contains the ratios of the number of emissions per unit of output value is required:

$$g\bar{x} = g[I - S]^{-1}\,\bar{f} \quad (7)$$

Each element of this matrix thus indicates how much CO_2 is created by an additional unit of final demand.

Therefore, the resulting multipliers indicate the amount of CO_2 and the number of jobs that are generated in Cameroon with every unit of final demand.

3. Economic impact analysis

Cameroon is a Central African country with a relatively diversified economy (agriculture, forestry, raw material extraction, and some processing industry). Thus, the primary and secondary sectors accounted for 17.4% and 23.3% of GDP in 2020, respectively (National Institute of Statistics, 2020). The agriculture, forestry and fishing sectors employ 43.5% of the workforce (2019 values) (FAO-ILO Modelled Estimates), meaning an important source of income for many households.

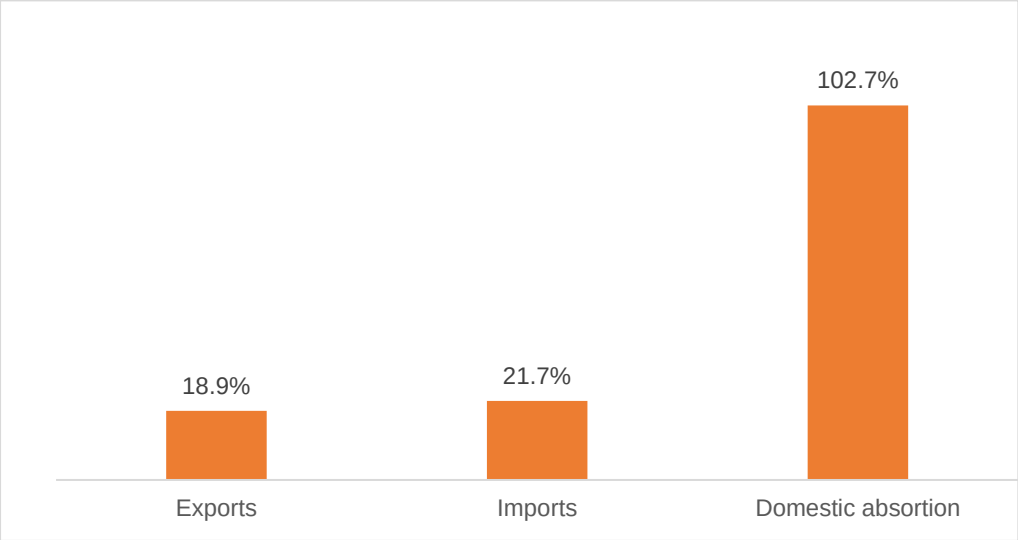
In terms of foreign trade, the main exports are crude petroleum and natural gas (23.3% in 2020) and agriculture products (18% in 2020). Cameroon is one of the most important producer and exporter of cocoa in the world, usually after Ivory Coast and Ghana. The main imports are food industry products (15.8%), refining and coking (13.7%) and chemical products (10%) (Institut National de la Statistique, 2021a).

3.1 Economic structure analysis of Cameroon

A SAM facilitates the description of the economic reality of a country, therefore, the data analysis of the Cameroon SAM for the year 2016 provided a snapshot of the characteristics of the Cameroonian economy. The macroeconomic analysis shows that domestic absorption

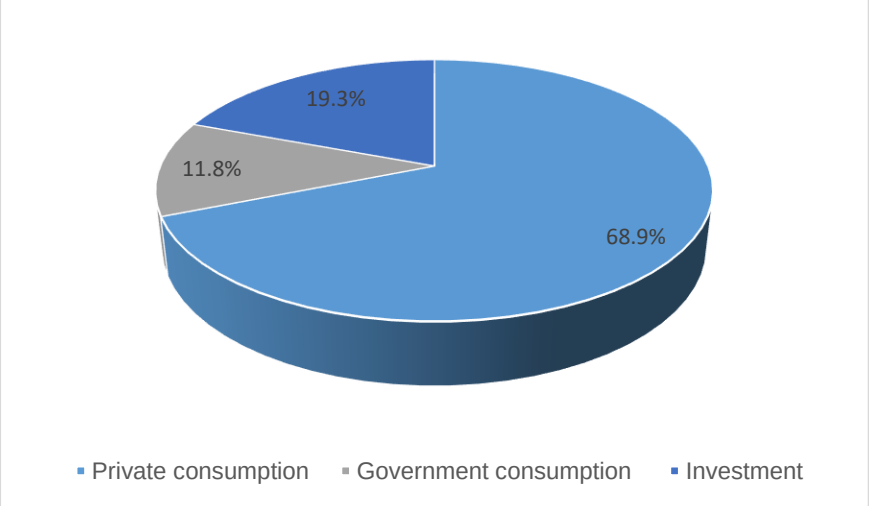
represents 102.7% of the GDP and the foreign sector dependency shows that exports represent 18.9% and imports 21.7% of the GDP (figure 1). Regarding the composition of domestic absorption, private household consumption represents 68.9%, followed by investment representing 19.3% and government expenditure 11.8% (figure 2).

Figure 1. Domestic absorption, imports, and exports as % of the GDP. Cameroon 2016.



Source: Own elaboration with Cameroon SAM 2016.

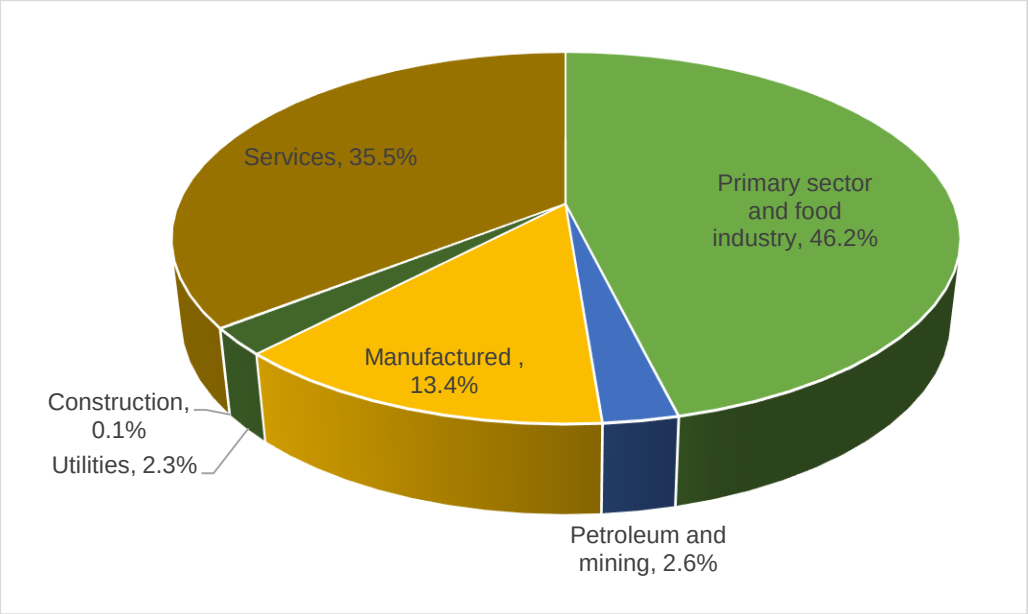
Figure 2. Domestic absorption composition. Cameroon 2016.



Source: Own elaboration with Cameroon SAM 2016.

By analysing the pattern of household consumption, the primary sector and food industry stand out with 46.2% of expenditure and the second most important one is services with 35.5% of the household consumption (figure 3). Within primary sector, agriculture products, and within the food industry sector meat, and meat industry, are the most demanded products by households. Of the expenditure on services, 29.5% is spent transport and storage and 19.4% on accommodation and food services. Regarding the expenditure in the manufacturing sector, it represents 41.5% destined for textiles and 18.3% for chemical products.

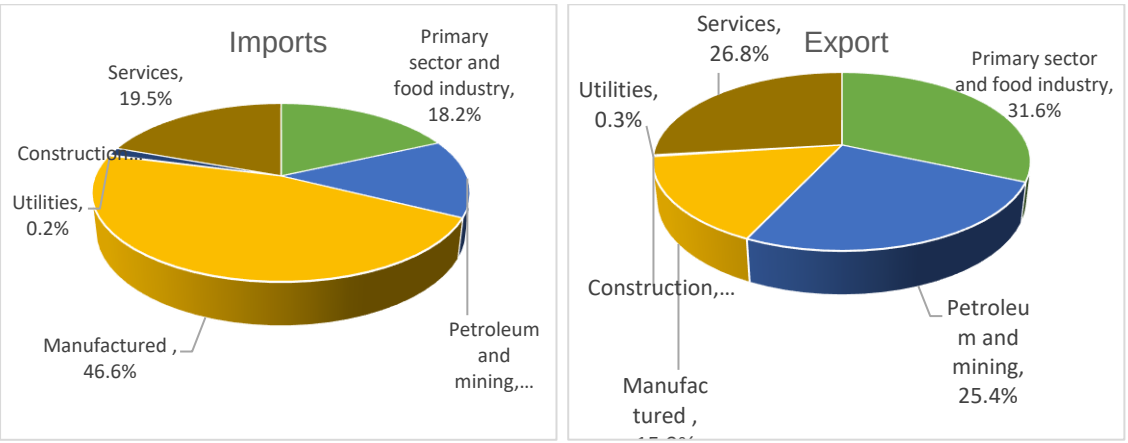
Figure 3. Household consumption pattern. Cameroon 2016.



Source: Own elaboration with Cameroon SAM 2016.

In the case of exports, the energy products represent the 22% and agriculture 20%. For imports, the manufacturing sectors stand out with 46.6%, due to imports of machinery and equipment and chemical products (figure 4).

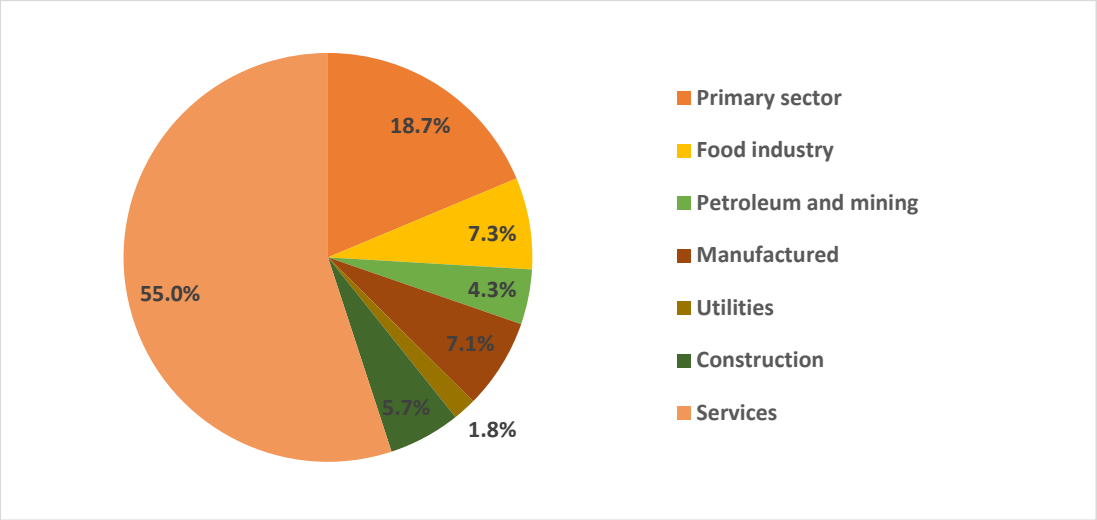
Figure 4. Exports and imports composition. Cameroon 2016.



Source: Own elaboration with Cameroon SAM 2016.

Analysing the distribution of value added by activities (figure 5), services stand out representing 55%, followed by primary sector with 18.7%, and the food industry with 7.3%.

Figure 5. Sector shares in Cameroon's value added 2016.



Source: Own elaboration with Cameroon SAM 2016.

3.2 Results on economic growth, CO_2 emissions and employment in Cameroon

The values of the multipliers calculated for the Cameroonian economy in 2016 are presented in Table 2. The cells are shaded to compare those below or above the average. Each value of the output multiplier shows the increase in gross output in sectors, due to one-unit exogenous injection into the final demand of a commodity (i.e. an exogenous increase in exports demand). As for example, the output multiplier of 'fishery and aquaculture products' indicates that a one-unit increase in exogenous demand in 'fishery and aquaculture products' leads to 1.91 of output increase in the economy. Likewise, the value added multiplier indicates the new value added created by the additional production in responses to an exogenous shock in demand. Finally, the values of the employment multipliers measure the increment in the number of jobs generated by the exogenous increase in demand.

Taking the multipliers of Table 2 into account, the primary sector group showed a higher backward income generation capacity than the economy average. Within the primary sector, the calculation of the output multiplier highlights the importance of 'agriculture' and 'fishery and aquaculture' products. Regarding the employment multiplier, the values are clearly above average for most primary sector products, with highest impact for 'agriculture' and below-average values for 'forestry and logging products'.

Following on with the multiplier analysis, it shows that many of the commodities classified under the food industry sector, such as 'meat and meat product', 'dairy', 'beverages' and 'tobacco' have very low multiplier values in output, value added, and employment multiplier. For 'grain milling' and 'oilseeds and animal feed', only the employment multiplier has values above average. Within this group, only 'cocoa, coffee, tea and sugar' products and 'bread and pasta products' have an output and employment multipliers above average.

Among the manufactured and utilities sectors, only 'wood products', 'repair and installation of machinery and equipment', 'electricity' and 'water' stand out in terms of output and value added creation.

The energy and other extraction products show values slightly above average for the output and value-added multipliers. The construction has output multiplier and value added multipliers above the average and employment slightly below average. In the case of services, they show above-average values in terms of output, value added and employment for almost all the products. Only for 'financial and insurance' and 'real estate' services the employment multipliers are below the average.

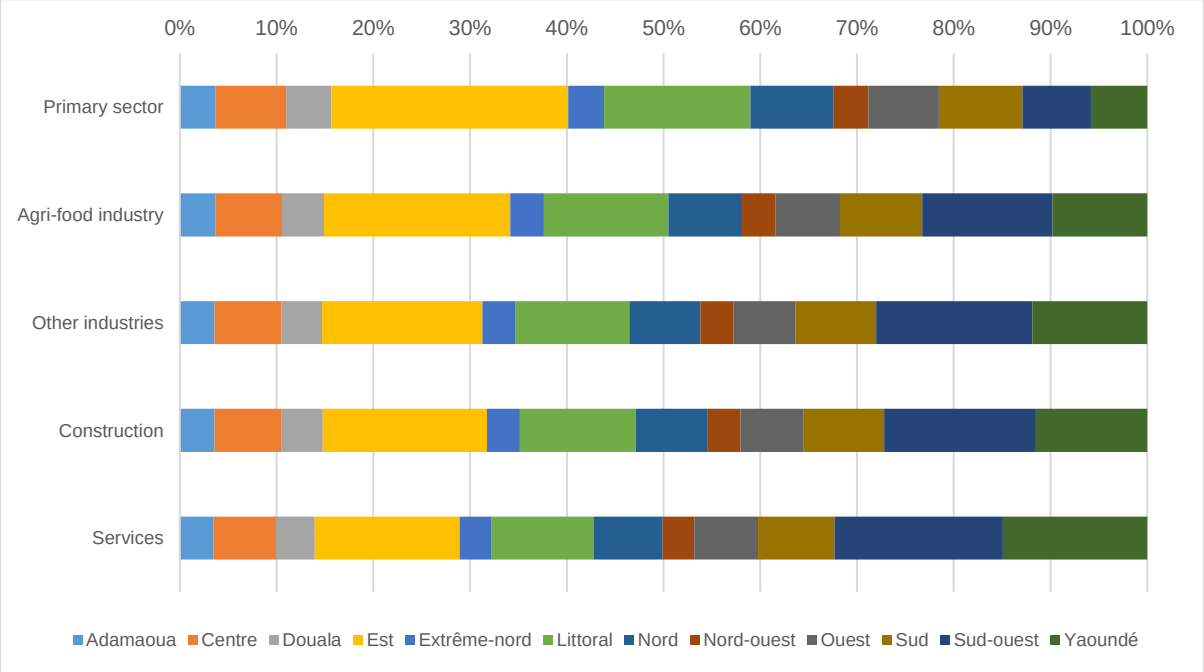
Table 2. Output, Value added and Employment multipliers for Cameroon 2016

Products		Output multiplier	Value added multiplier	Employment multiplier
A01	Agricultural products	1.85	1.34	3.73
A02	Livestock and hunting products	1.63	1.15	1.45
A03	Forestry and logging products	1.78	1.26	0.85
A04	Fishery and aquaculture products	1.91	1.36	1.17
B05	Energy products	1.64	1.08	0.68
B06	Other extraction products	1.63	1.04	0.86
C07	Meat and meat industry products	1.29	0.81	0.74
C08	Products of the work of grains and products	1.28	0.83	1.21
C09	Cocoa coffee tea and sugar products	1.65	0.97	1.30
C10	Oilseeds and animal feed	1.61	0.99	1.27
C11	Bread Cookies and Pasta	1.84	1.09	1.43
C12	Dairy products fruit products and	1.20	0.78	0.91
C13	Drinks	1.31	0.79	0.76
C14	Tobacco products	0.49	0.32	0.45
C15	Textile and clothing industry products	1.38	0.91	1.17
C16	Worked leather travel items and footwear	1.04	0.65	0.53
C17	Woodworking products and wooden wares	1.95	1.27	1.07
C18	Paper and cardboard edited and printed products	0.63	0.38	0.35
C19	Products of refining coking and	1.17	0.55	0.35
C20	Chemical products	0.54	0.31	0.26
C21	Rubber and plastic products	0.43	0.25	0.28
C22	Other non-metallic mineral products and m	0.91	0.50	0.41
C23	Basic metal products and articles of m	1.09	0.58	0.54
C24	Machinery electrical appliances and materials	0.08	0.05	0.04
C25	Audiovisual and c	0.05	0.03	0.02
C26	Transportation equipment	0.07	0.04	0.04
C27	Furniture products of various industries and	1.39	0.85	0.97
C28	Repair and installation of machinery and eq	2.31	1.34	1.62
D29	Electricity and energy supports	2.36	1.41	0.98
E30	Collection processing and delivery service	2.20	1.52	1.21
F31	construction work	2.26	1.35	1.13
G32	Wholesale and retail	0.00	0.00	0.00
G33	Repairs and maintenance of vehicles and motorcycles	2.47	1.66	1.87
H34	Transport and storage	2.63	1.77	1.38
I35	Accommodation and food services	2.15	1.32	1.40
J36	Information and communication services	2.18	1.36	1.27

K37	Financial and insurance services	2.23	1.47	1.09
L38	Real estate services	2.40	1.75	1.07
M39	Professional scientific and tec services	1.79	1.19	1.21
N40	Rental services travel agencies and	2.14	1.40	1.44
O41	Public administration and security services	2.74	1.70	1.47
P42	Education	2.43	1.71	1.65
Q43	Health and social work services	2.51	1.67	1.52
R44	Artistic sports and recreational services	2.56	1.57	1.65
S45	Other Services n.e.c.	2.45	1.58	2.20
T46	Domestic services	2.65	1.93	7.70

The employment multiplier can be analysed in depth by considering the impact of the jobs that can be generated by region (figure 6). Cameroon has 10 regions and 2 major cities (Doula and Yaoundé).

Figure 6. Employment multipliers by aggregate sectors in Cameroon 2016 by region. Number of people jobs generated (by region) per million FCFA of output value.



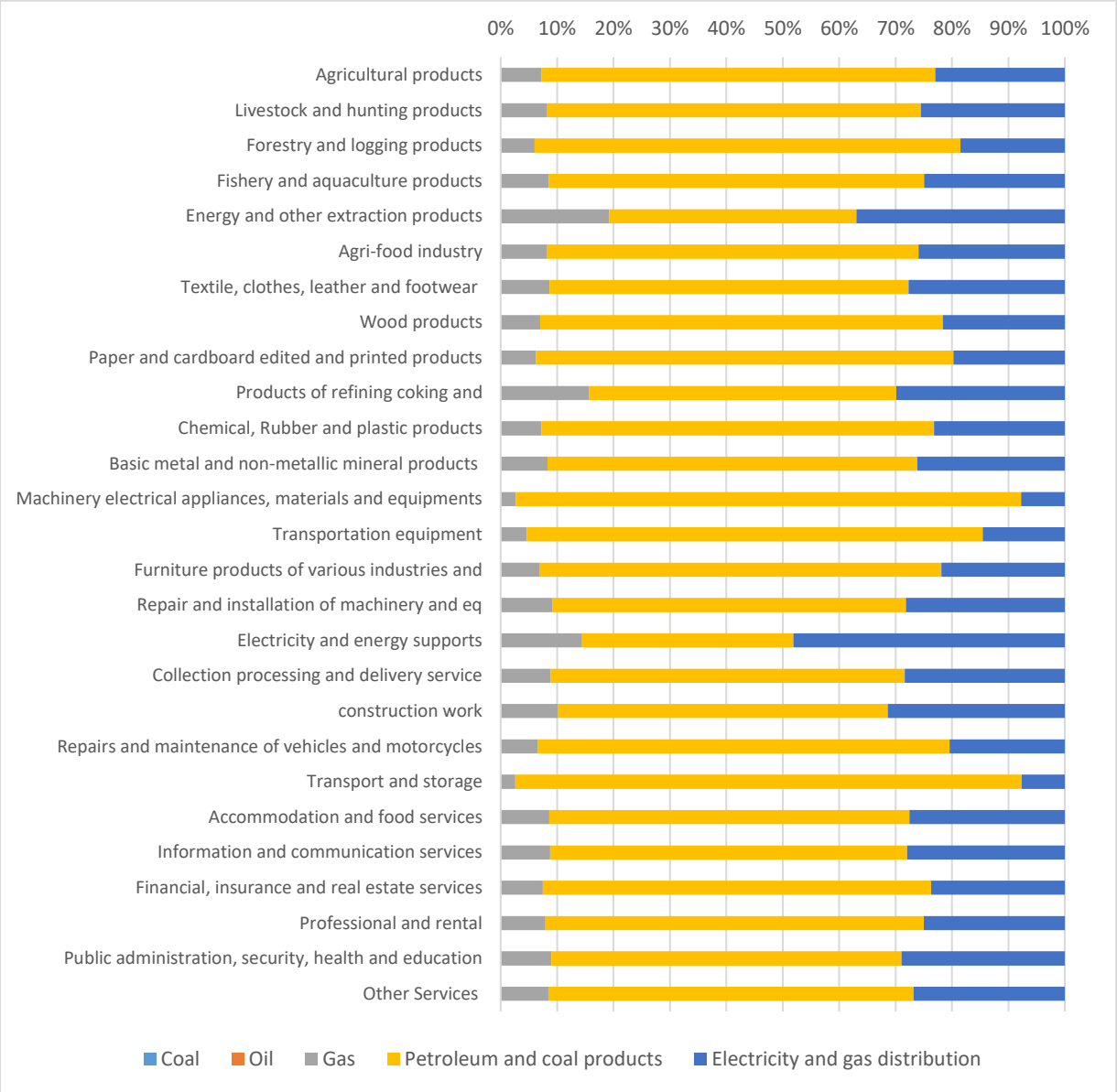
Source: author's calculation based on Cameroon SAM 2016.

4. Results

According to the Carbon emissions multipliers, the most carbon intensive activity on average is by far Electricity and energy supports, followed by transport and storage, public administration and security services, reparation and installation of machinery and equipment, and then energy products and health and social work services.

For the analysis of the CO_2 emissions by source, we present in figure 7 the detail disaggregated in 5 types of sources.

Figure 7. Distribution of the CO_2 emissions multiplier by source, generated from an exogenous impact on commodities demand.



Source: author's calculation based on GTAP-E Data Base and Cameroon SAM 2016.

In this study, the emission taken into consideration were referring to the main energy sources suppliers. Considering the data availability, non-CO2 emissions were not included in this analysis and, consequently, some of the results presented here could observe variations when other greenhouse gas emissions are considered.

In order to calculate the employment intensity of carbon, we divided the employment multipliers by the CO_2 multipliers.

Figure 8. Employment by skill level and category associated to CO2 emissions (tonnes) generated by source due to an exogenous impact on commodities demand.

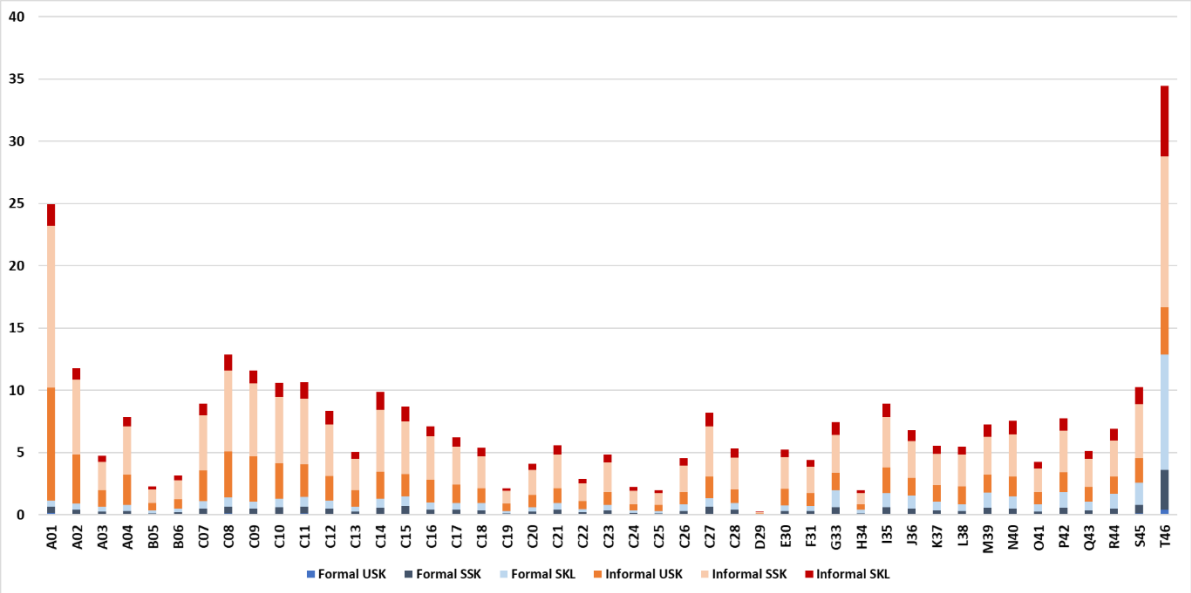
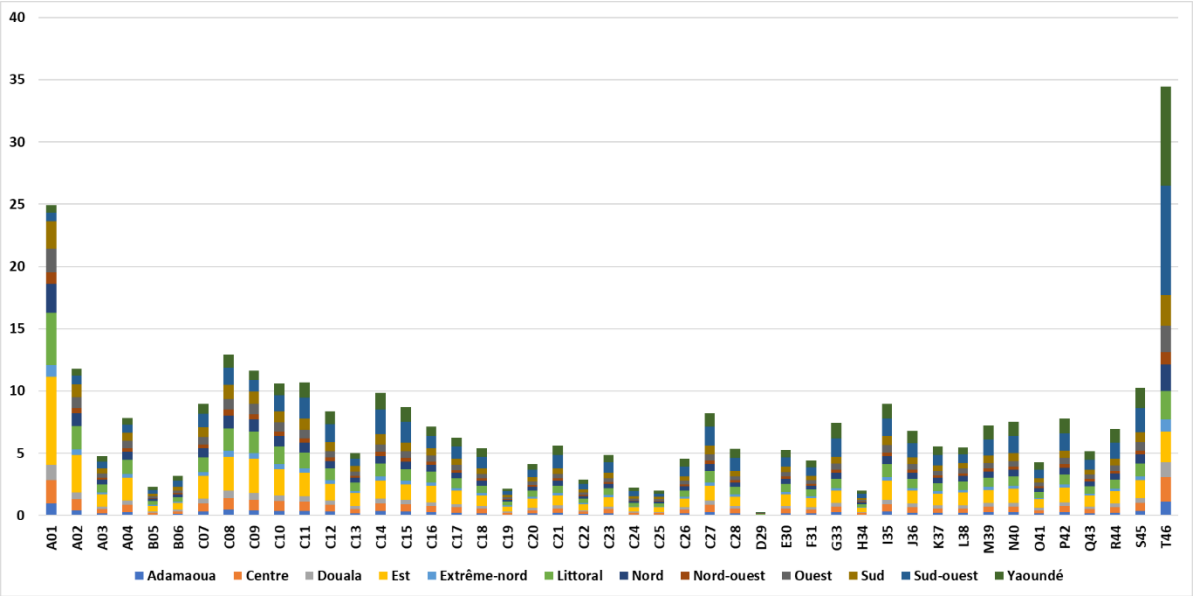


Figure 8 shows the employment intensity of carbon by skill level, and by type of job, formal and informal. The results are derived by a unitary exogenous shock on the final demand of each commodity. Every million FCFA spent in each commodity creates simultaneously an impact in the consumption-based emissions and in the employment due to the increase in the production. This chart must be read in the following way. In the agricultural sector (A01), for example, a unitary increase in the final demand would result in 25 job created per a tonne of CO2 emitted.

From figure 8 it is also possible to determine the amount of skilled, semi-skilled and unskilled labour associated to every tonne of carbon emissions, while distinguishing between the formal and informal sector. The informal-skilled and informal semi-skilled employment intensity of carbon are the components with higher values across all the sectors. The indicator reaches the highest values in the agricultural sector and in the dwellings. The next most productive group of sectors is represented by the food industry, where for instance, the ‘Manufacture of grain mill products, starches and starch products’(C08) and ‘Cocoa, coffee, tea and sugar products’(C09) stand out among others.

Figure 9. Employment by region associated to CO2 emissions (tonnes) generated due to an exogenous impact on commodities demand.



In figure 9, the resulting indicator expresses the employment associated with a tonne of CO2 emitted within the Cameroon regions, derived by an exogenous shock. The overall composition highlights how the indicator is distributed across the country per each sector. Eastern region expresses the highest values across all sectors, especially in the agricultural industry, where also Littoral region stands out. The next most productive region is the South-West, with relevant values mainly in the light-industry and in the Services.

5. CONCLUSIONS

Understanding the effects derived from the consumption-based emissions and the production help to describe the potential trade-offs when a target of CO2 reduction is set. By mean of a SAM-based model that is able to describe the relationships between different economic agents and combine different satellite accounts, as the emissions and the employment, it can be proposed an advanced methodological approach to combine different data involving monetary and physical flow.

The indicator proposed, the so-called employment intensity of carbon, represents a measure of efficiency useful to determine the sensitivity of different countries and sectors to “mitigation-driven changes in consumption expenditure along the global supply chain”. Developing economies, for instance, are particularly sensitive to a decline in their agricultural and food industry trade. This result can be also observed from different perspective, when focusing on the different types of skill levels and job category. As mentioned in the previous section, Eastern region expresses the highest values across all sectors, especially in the agricultural one, followed by the South-West region where significant values are observed mainly in the light-industry and in the services.

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