



RESEARCH ARTICLE

RETHINKING WHEAT IMPORTATION IN CAMEROON: AN ESTIMATION OF LIKELY BENEFITS MISSED DUE TO IMPORTATION

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ABSTRACT

This study was conducted to create a re-awakening of thinking in the subject area of wheat importation in Cameroon. The objectives of the study included: examining the production and importation level of wheat, estimating likely job creation potential and community welfare missed due to high importation of wheat and estimating revenue (from taxes) that could have been generated through personal income tax if local production was prioritized. Secondary data was used. Simple descriptive analysis tools building on data for 20 years 2000 to 2019, was used for analysis. Data employed for analysis was collected from online sites namely FAO, USDA, Macrotrends, and Knoema. This was after all efforts to obtain data from the National Institute of Statistics yielded no fruits. The data collected from online sites were averaged and the mean was used for analysis. Wheat production results showed that on average for the period studied, 0.84 thousand metric tonnes of wheat were produced annually in Cameroon. Importation figures showed that an average of 513.85 thousand metric tonnes were imported annually in Cameroon. This shows a huge gap between local production and consumption needs to be filled through importation. Regarding lost job creation potential, estimates indicated that about 246,413 jobs could have been created annually if local wheat production was prioritized over importation. These indicate that unemployment levels would have been much better in wheat-producing areas if this was the case. Estimates relating to revenue generation through personal income tax show that on average, 16,912.24MFCFA might have been missed annually for the period 2000 to 2019 due to the high importation of wheat. Overall, the results suggest that Cameroon is missing a lot by importing huge volumes of wheat. The study recommends that Cameroon should engage heavily in local wheat production given that the agro-ecological conditions are favorable for wheat production. Such an action will bring about significant positive changes in terms of local job creation, income generation, and welfare improvements to the inhabitants, especially in the farming communities.

KEYWORDS

Wheat Production and Importation, Local Job Creation, Revenue Generation, Welfare, Cameroon

1. INTRODUCTION

Across the African continent, evidence suggests that agriculture has been and continues to be a key contributing factor to the survival of the economies. According to some researcher, the contribution of the agricultural sector to well-being is huge estimated at employing about 65–70 percent of the African workforce, providing livelihood support to about 90 percent of Africa's population and contributing about a quarter to the GDP of the African continent (OECD and FAO, 2016; World Bank, 2016). Despite the huge potential of the agricultural sector notably the agribusiness sector for Africa's economic wellbeing, much still needs to be done to optimize benefits. According to a study, Africa's agricultural sector is still performing below standard when compared with other continents in terms of productivity, agricultural mechanization, advisory and extension services, and access to credit and finance (Mukasa et al., 2017). The situation in sub-Saharan Africa as concerns cereal yields is disturbing estimated at 1,430 kg per hectare of cultivated land, compared to 4,000 kg

per hectare in Latin America and the Caribbean, or 5,200 kg per hectare in East Asia and the Pacific (Mukasa et al., 2017)

In many African countries, Wheat is a key staple crop, with increasing consumption in the past 20 years as a result of rising population, associated with changes in food preferences with urbanization (Macauley, 2015). As of 2013, reports indicated that importation of Wheat accounted for about 60% of Wheat Consumption in Africa, and especially for Sub Saharan African Countries (including Cameroon) the figures were higher at about 80% (USDA, 2015; Macauley 2015). These high importation levels indicate that should local production be supported; many gains would be visible in African countries. This study thus attempts to consolidate the past importations figures for the period 2000 to 2019 and then make an estimation of what Cameroon might have missed in terms of job creation and income generation.

According to FAO by the year 2050, global wheat demand will increase by

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60%. This suggests a high need for more production of wheat (FAO, 2013). Following the study environmental conditions in Cameroon are favorable zones for wheat cultivation (Rajaram and Hettel, 1994). For example, shortly after independence, SODEBLE company was established in 1975 to encourage local wheat production to reduce the country's dependence on imports (Monthé and Habas, 1980). Unfortunately, despite increasing demand for wheat, production levels have been observed to remain low. For example, as of 2014, for Sub Saharan Africa including Cameroon, production levels were estimated at 1.7 tons/ha, about 50% below the world average (FAOSTAT, 2014).

This implies that much needs to be done to meet up with production levels to fully satisfy demand. This study thus argues that it is essential and timely to look into the past Wheat production and importation levels, estimate the likely benefits missed given the importation levels in Cameroon. This study opines that a fundamental estimation of these benefits in terms of employment and local income generation missed may serve as an information source and trigger policymakers to review agricultural policies and support local wheat production in Cameroon. The study builds on data for the period 2000 to 2019.

Cameroon often referred to as "Africa in miniature", is highly diversified concerning agroecology. The agro-ecology of Cameroon ranges from a Sudano-Sahelian North to humid forests in the Centre, South, and East Regions. The diverse nature of the agro ecology of Cameroon makes it possible for major crops grown in other African countries such as rice, wheat, maize, cassava, potatoes, plantains/bananas, yams, cocoa, and coffee to be grown in Cameroon. As noted by GoC-FIDA, agriculture remains a priority sector in the growth and poverty reduction drive of the Government of Cameroon (GoC-FIDA, 2010). This implies that there is a need for the development of the agricultural sector. For proper development of this sector, notably as concerns wheat farming, this study believes a careful examination of the post-production and importation levels of wheat, and an estimation of gains likely missed due to high importation is necessary. These, the study opines may serve as an eye-opener to push for efforts towards the promotion of local production.

Further, even as wheat consumption in varied forms is increasing in Cameroon, the high level of food unsecured households estimated at 16% (3.9 million people) and households inadequate food consumption at about 22%, suggest that the high importation of wheat may not be changing significantly the food security situation of the Cameroonian people (MINADER and WFP, 2017). Potential wheat farming households may benefit more if importation is limited in favor of local production, a guess this study aims to estimate through factoring in job creation potentials when analyzing importation data for the period 2000 to 2019.

More still, unemployment levels (estimated at an average of about 4% for the past 10years in an agrarian economy like Cameroon indicate that promoting agricultural production against importation will significantly affect job creation (Macrotrends, 2021). In this light, this study attempts at estimating the level of job creation that might have been attained should the value of importation have been invested in local production over the last 20years. In 2010, the government of Cameroon announced a vision of transforming the country into an emerging economy by 2035. An important question that needs to be answered is: Can Cameroon attain economic emergence by importing even what can be produced locally?. Observing the general trend from emerging economies like China, Thailand, Russia, Israel, Brazil, and South Africa, it is clear that importation especially of agricultural products whose environmental factors favor local production is minimal. For sure, local production creates jobs and serves as a source of revenue generation in these countries.

Therefore, based on production and importation data for the period 2000 to 2019, and using estimation parameters like job creation potential household welfare, personal income tax, this study seeks to quantifiably establish likely gains missed in the last 20years as wheat importation into Cameroon has been increasing. The study opines that such an examination and estimation thereof may provide valuable insights that may inform policymakers and hence result in efforts towards promoting local wheat production, especially at this time 14years away from 2035, the anticipated economic emergence year. To address this study concern, the following research questions were formulated.

- i. What has been the production and importation level of wheat for the period 2000 to 2019?
- ii. What is the estimated job creation potential and community welfare that might have been missed due to high wheat importation in the last 20 years?

- iii. What is the estimated revenue (from taxes) that could have been generated through personal income tax if local production was prioritized over importation in the last 20 years?

2. METHODOLOGY

2.1 Scope of the Study

This study scope was defined in terms of time and missed benefits. In terms of time, the study used period 2000 to 2019, a 20 years' time frame for data collection and analysis. As concerns estimating benefits missed, three focused areas were of interest in the study namely job creation, household welfare as well as possible revenue generation through taxation. The study therefore limited itself and did not venture into estimating other related aspects at the wheat value chain.

2.2 Research Design

The comparative historical research design employing basic quantification techniques was used in this study. Historical research helps provide a systematic collection and evaluation of historical data to describe and explain past occurrences making it possible for lessons to be learned and also applied in solving present problems as well as for predictions to be made. In this study, the quantification was made to establish through estimation, the likely benefits that could have occurred if local wheat production was highly promoted but that have been missed due to high importation for the past 20 years. The estimation was on the basis of local job creation, likely household welfare as well as possible revenue generation through taxation missed.

2.3 Reasons for Adopting the Comparative Historical Research Design

The motivation of the researchers to adopt the comparative historical research design in this study was based on the following points:

- The comparative historical research design permits the investigation of topics viewing from varied perspectives. This is exactly what this study was doing as it attempted to look at what might have been lost due to high importation of wheat into Cameroon, estimating in terms of local job creation, revenue generation and household welfare.
- Further, the comparative historical research design provides a means to study evidence from the past and make analysis. In this study, evidence of past wheat importation was studied and analyzed to present an argument suggesting what might have been lost in the past 20years in terms of job creation and local taxation. This was with the view of making the research serve as a potential reference for policy makers for considerations relating to wheat production and importation in Cameroon.
- Also, by using the comparative historical research design, it is possible to learn from past successes and failures. In this study, reviewing the past wheat production and importation data and employing analysis by factoring what the situation could have been if importation values where locally produced will provide a clearer understanding on either our degree of failure or success. To this respect, the comparative historical was deemed necessary and appropriate for this study.

2.4 Data Time Frame and Justification

For this study, the data time frame was the period 2000 to 2019, which is 20 years historical data. The time frame was selected because it was judged sufficient enough to guide and give meaningful data which could be analyzed to address the stated study objectives. More specifically, this time frame was selected because:

- The first 10 years of the time period (2000 to 2010) was considered to be within the period when business was conducted with the mind of attaining the Millennium Development Goals. Thus the study assumes that efforts at this time for sure in the area of agricultural production could have been geared at improving performance as a

way of fighting poverty in an agrarian economy like Cameroon.

- The second 10 years time period (2010 to 2019) was a period of more engagement given the drive towards the country's economic emergence and hence the intensification of efforts towards the attainment of the Sustainable Development Goals. As noted in the vision 2035 emergence action plan of Cameroon, the area of agribusiness is expected to be key contributing area, creating jobs, stimulating the local economy and as such helping the country to emerge.

2.5 Data Sources and Collection

For this study, data was collected from secondary sources. The type of secondary data source was the external secondary data sources. Secondary data was obtained by consulting published research works and documents about the study area. The collection and review of secondary data helped in varied ways in this study. Firstly, the reviewed helped in establishing the contribution of the agricultural sector to the wellbeing of African Economics (OECD and FAO, 2016; World Bank, 2016). Further, the review of publications like provided insights on the current situation of wheat consumption as well as consumption projections for Sub Saharan Africa (Mukasa et al., 2017; Macauley, 2015; FAO, 2013; Mason et al., 2012). This was used as the key building point for estimation by the study.

Thus, this literature provided the objective argument background of this study. Also, reviews and sourcing through various webographies helped the researcher in performing a sought of triangulation to ascertain that, the data used for analysis had minimal variations if any. This resulted in the best data obtained from FAO, USDA, Macrotrends sites as well as other sites like Knoema o be used (<https://knoema.com>; <https://www.fao.org>; <https://www.usda.gov>; <https://www.macrotrends.net>). Due to slight variations in the data provided by all these sites, it was assumed that using average data values would be representative of the situation in Cameroon. In general, secondary data provided insightful guidance that helped in the conceptualization of the entire study; stating the research questions and problem, selecting the theoretical framework, designing the study data collection tool as well as in formulating the analytical approach employed in the study. For these reasons, the researcher opines that secondary data was most suited for this study.

2.6 Assumptions made for the Analytical Approach to be Meaningful

For the purpose of this study, the assumptions were made that:

- ✓ the value spent on importation of wheat is converted and injected into local production;
- ✓ 20% of annual importation value is assumed to be operating expense on the local production process;
- ✓ the structures in place to promote wheat farming and in general other agricultural organizations are effectively carrying out their activities;
- ✓ the ecological friendly nature of Cameroon which provides a favorable climate for wheat farming is satisfactorily used;
- ✓ the wages of actors are relatively static with a 4% increment after every two years;
- ✓ the annual job creation is dependent on the value of cumulative importation for each period considered;
- ✓ job creation potential is estimated to be at entry level jobs that is at basic wage level;
- ✓ income tax increases as wages increase and thus plays in after every two years. Also the personal income tax rate used is 16.5% as provided for by law;
- ✓ the year 2000 is the base year in the study, and subsequent changes will build on it;
- ✓ the exchange rate for US dollars and FCFA is 1USD = 500FCFA. This was considered based on observations of fluctuations in the past years. It was thus estimated to have averaged at about 1USD =500FCFA
- ✓ the period from independence to the year 2000 was time sufficient enough to build a solid agricultural base for the production of wheat in Cameroon.

2.7 Estimation Technique

The estimation technique developed and used in this study builds on the general principle of regression analysis, but assumes a sensitivity spirit with the estimator changing as years goes by. The estimation technique in its functional form is:

$$Y = f(x_0, x_1, x_1 \dots x_n) \quad \text{eqn} \quad (1)$$

where the dependent variable – new job creation potential lost, revenue that could be raised through personal income tax lost- (Y) will be regressed on (xi) the annual importation values.

The annual importation value considered as the basis for estimation is after deduction of assumed 20% annual value of import allocated for operating expenses. Therefore cumulative importation value per period of two years was calculated as follows:

$$ACIM = (CIMy1 - (.20 * CIMy1)) + \dots (CIMyn - (.20 * CIMyn)) \quad \text{eqn} \quad (2)$$

Where :

ACIM = Adjusted Cumulative Import Value used for estimation

CIMy1... CIMyn = Cumulative Import Value for respective years

Based on regulation, changes will occur in the variables estimated after every 2 years. Thus, data was group to form periods with each period equating two years. This was done such that:

x_0 and x_1 form period 1(represented by P_1); x_2 and x_3 form period 2(represented by P_2); x_4 and x_5 form period 3(represented by P_3); x_6 and x_7 form period 4(represented by P_4); x_8 and x_9 form period 5(represented by P_5). It is worth mentioning that $x_0, x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8$ and x_9 stand for the respective years 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018 and 2019.

Therefore to address objective one which deals with examining importation and production levels, absolute values were used for analysis and comparisons made to show changes. Percentages were used to indicate annual percentage changes. Using moving averages, average means were used to make comparisons across periods.

To address objective two which is estimating the missed job creation, cumulated values were gotten by employing the following equation

$$y = \frac{P1ACIM}{W} + \frac{P2ACIM}{inre + P1W} + \frac{P3ACIM}{inre + P2W} + \frac{P4ACIM}{inre + P3W} + \frac{P5ACIM}{inre + P4W} \quad \text{eqn} \quad (3)$$

$\frac{P1ACIM}{W}$ = estimated number of jobs creation missed in period 1 gotten by dividing

adjusted cumulated import value for period 1 by the prevailing

minimum wage provided by the law then

$\frac{P2ACIM}{inre + P1W}$ = estimated number of jobs creation missed in period 2 gotten by

dividing adjusted cumulated import value for the period

by the current annual wage value given the increment after two years of service

$\frac{P3ACIM}{inre + P2W}$ = estimated number of jobs creation missed in period 3 gotten by

dividing adjusted cumulated import value for the period by

by the current annual wage value given the additional increment after four years of service

$\frac{P4ACIM}{inre + P3W}$ = estimated number of jobs creation missed in period 4 gotten by

dividing adjusted cumulated import value for the period

by the current annual wage value given the increment after six years of service

$\frac{P5ACIM}{inre + P4W}$ = estimated number of jobs creation missed in period 5 gotten

by dividing adjusted cumulated import value for the period

by the current annual wage value given the increment after eight years of service

As per regulations, the minimum wages vary from period to period. For

the period 2000 to 2013 the minimum wage rated used for estimation in this study is 28,000FCFA and for the 2014 to 2019 the minimum wage used is 36,270FCFA. The determination of increment value calculated at 4% when increment is due was done using minimum wages as provided for by the law during the respective periods.

It is worth highlighting that annual job creation was estimated by subtracting new levels from previous year. Thus estimated such that

$$N_j = N_{t+1} - N_t \tag{4}$$

Where N_j = net new jobs created each year

N_t = Total jobs estimated to be available given the substitution of importation in current year

N_{t+1} = Total jobs estimated to be available given the substitution of importation in next year

Regarding the third research objective which deals with estimating the taxes that could have been generated through personal income tax if local production was prioritized over importation, the estimation approached employed was simply through factoring the personal income tax provided for by law per worker per year on new job creation potential. The estimation equation developed for this purpose was as follows:

$$I_T = \sum((N_{t+1} - N_t) + N_t) * Wa * 12m * T_r \tag{5}$$

Where I_T = cumulated annual income tax

Wa = monthly wage

$12m$ = 12 months of the year

T_r = personal income tax rate

It is anticipated that the more the number of new jobs created, the higher the amount of missed revenue that could have been generated through personal income tax if the importation value was invested in local production.

2.8 Quality Control to Ensure Relative Accuracy of Representation

To attain the interest of this study, quality control measures were employed to ensure relative accuracy of representation. To this respect, quality control started with ensuring that the data used was representative. Thus, data used as the basis for estimation was gotten from reputable sites like FAO, USDA, Macrotrends, and Knoema. This for sure suggests representative accuracy of results. Further, the adjusted cumulative import value instead of the actual was used in doing estimation. The adjustments were made by playing in a 20% rate on import value to reflect operational expenses. This for sure made the results more realistic. More still, the study made use of actual minimum wage rate amounts and personal income taxes as provided for by the law. This implies that job creation calculated based on ability to pay was estimated at actual anticipated wage. In the same like, local revenue generation was estimated on the actual personal income tax rate provided for by regulation, thus making estimates justifiably accurate. The estimation equation was developed with simple arithmetical logic. Thus, it was built on simple foundational arithmetic namely addition, subtraction, division, and multiplication. In this way, complexity was avoided making the estimation down to earth and focusing purely on the subject. More interesting, the conceptualization following arithmetic principles made the study findings a valid base for further mathematical calculations and further research as such making the current finding accurate in representation.

3. RESULTS AND DISCUSSIONS

3.1 Wheat Production and Importation in Thousand Metric Tonnes

Data was collected to show Wheat production and importation volumes for the period 2000 to 2019. The collected data was analyzed to show percentages changes as can be seen in table 1 in the appendix section.

From the table 1, a graph was developed as seen below.

Table 1: Wheat Production and Importation Estimates in Thousand Metric Tonnes (2000 – 2019)				
Year	Production In Metric Tonnes (Thousand)	Percentage Change Wheat Production	Importation In Metric Tonnes (Thousand)	Percentage Change Wheat Importation
2000	-	-	277	-
2001	-	-	288	25.76
2002	-	-	266	-1.91
2003	-	-	246	10.33
2004	-	-	308	12.31
2005	-	-	319	6.06
2006	0.73	0.00	178	25.05
2007	0.75	3.15	282	-19.73
2008	0.78	3.05	493	159.45
2009	0.80	3.35	495	-35.05
2010	0.90	12.22	540	-0.06
2011	0.95	5.56	590	45.04
2012	0.80	-15.79	565	9.93
2013	0.85	6.25	655	-11.50
2014	0.88	3.88	705	10.37
2015	0.88	-0.45	805	-10.28
2016	0.89	1.25	690	-11.13
2017	0.90	1.46	845	16.78
2018	-	-	780	-5.34
2019	-	-	950	9.82
Mean	0.84		513.85	
SD	0.07		233.96	

Data Source: Averaged by researcher from data collected through webography from FAO, USDA, Macrotrends and Knoema sites accessed in June 2021

From table 1, it can be seen clearly that wheat importation volumes significantly exceeds local production. Apparently, production statistics for the period 2000 to 2005 were not available or reached by the researcher. The periods 2010, 2011, 2016 and 2017 recorded the highest wheat production in Cameroon with production volumes in thousand metric tonnes of 0.90, 0.95, 0.89 and 0.90 respectively. The year 2010 recorded the highest percentage change in production of 12.22. Further, as concerns importation, it can be seen from table 1 that the period 2015, 2017 and 2019 recorded the highest importation volumes of 805, 845 and 950 thousand metric tonnes respectively. Minimum import volumes recorded were 178, 246 and 277 thousand metric tonnes registered in the year 2006, 2003 and 2000 respectively. Statistically, the mean production stands at 0.84 thousand metric tonnes and standard deviation value of 0.07 thousand metric tonnes while for importation the mean is 513.85 thousand metric tonnes and standard deviation of 233.96 thousand metric tonnes.

3.2 Estimated Value of Importation in FCFA

Importation Values when merely captured and compared with production values in tonnes may not make significant meaning except when viewed in financial terms. For this reason, importation values were captured for the period 2000 to 2019 and presented as can be seen below.

Table 2: Estimated Value of Importation in FCFA

Year	Importation In Metric Tonnes (Thousands)	Import Value (Thousands Us Dollars)	Import Value Millions Fcfa
2000	277	45,000.00	22,500.00
2001	288	56,591.00	28,295.50
2002	266	55,511.00	27,755.50
2003	246	61,247.00	30,623.50
2004	308	68,789.00	34,394.50
2005	319	72,958.00	36,479.00
2006	178	91,234.00	45,617.00
2007	282	73,233.00	36,616.50
2008	493	190,006.00	95,003.00
2009	495	123,415.00	61,707.50
2010	540	123,341.00	61,670.50
2011	590	178,888.00	89,444.00
2012	565	196,647.00	98,323.50
2013	655	174,024.00	87,012.00
2014	705	192,073.00	96,036.50
2015	805	172,322.00	86,161.00
2016	690	153,144.00	76,572.00
2017	845	178,840.00	89,420.00
2018	780	169,283.00	84,641.50
2019	950	185,914.00	92,957.00
	Mean	128,123.00	64,061.50
	SD	17805.66	8902.84

Data Source: Averaged by researcher from data collected through webography from FAO, USDA, Macrotrends and Knoema sites accessed in June 2021

Note: Estimation of importation value in FCFA is done by converting importation value in US Dollars to FCFA through multiplication using 500FCFA as an exchange that is 1USD = 500FCFA

As can be seen from Table 2 above, Cameroon importation value for wheat is significantly high averaging at 128,123.000US dollars approximated averagely 64,061,500,000 FCFA for the last 20 years. Pick years on which much was spent on importation were 2011, 2019, 2008, 2014 and 2012 with respective importation values in FCFA of 89,444,000,000FCFA, 92,957,000,000FCFA, 95,003,000,000 FCFA, 96,036,500,000 FCFA and 98,323,500,000 FCFA.

3.3 Estimation of the Job Creation Potential and Community Welfare that might have be attained if Importation was substituted with Local Production

To estimate job creation potential and hence community welfare that might have been attained if importation was substituted with local production, data was collected and analyzed in stages. The first stage centered on adjusting importation values with the assumption that 20% of the annual import values were reserved for investment if local production was promoted.

Table 3: Adjustments for investment at 20%

Year	Import Value (Thousands Us Dollars) (A)	Import Value Millions Fcfa (B)	Adjusted Provision Of20% For Annual Investment (C) = .20*A	Annual Investment Provision Value(Thousand Us Dollars) (D) = A - C	Annual Investment Provision Value (Million Fcfa) (F) = D*500
2000	45,000.00	22,500.00	9,000.0	36,000.0	18,000.00
2001	56,591.00	28,295.50	11,318.2	45,272.8	22,636.40
2002	55,511.00	27,755.50	11,102.2	44,408.8	22,204.40
2003	61,247.00	30,623.50	12,249.4	48,997.6	24,498.80
2004	68,789.00	34,394.50	13,757.8	55,031.2	27,515.60
2005	72,958.00	36,479.00	14,591.6	58,366.4	29,183.20
2006	91,234.00	45,617.00	18,246.8	72,987.2	36,493.60
2007	73,233.00	36,616.50	14,646.6	58,586.4	29,293.20
2008	190,006.00	95,003.00	38,001.2	152,004.8	76,002.40
2009	123,415.00	61,707.50	24,683.0	98,732.0	49,366.00
2010	123,341.00	61,670.50	24,668.2	98,672.8	49,336.40
2011	178,888.00	89,444.00	35,777.6	143,110.4	71,555.20
2012	196,647.00	98,323.50	39,329.4	157,317.6	78,658.80
2013	174,024.00	87,012.00	34,804.8	139,219.2	69,609.60
2014	192,073.00	96,036.50	38,414.6	153,658.4	76,829.20
2015	172,322.00	86,161.00	34,464.4	137,857.6	68,928.80
2016	153,144.00	76,572.00	30,628.8	122,515.2	61,257.60
2017	178,840.00	89,420.00	35,768.0	143,072.0	71,536.00
2018	169,283.00	84,641.50	33,856.6	135,426.4	67,713.20
2019	185,914.00	92,957.00	37,182.8	148,731.2	74,365.60

Data Source: computed by researcher from data collected through webography from FAO, USDA, Macrotrends and Knoema sites accessed in June 2021

After investment adjustments were made to establish annual investment amounts and the next stage focused on determining import value to be used for further calculations as well as creating periods by grouping years. This resulted in 10 periods on which the estimations of job creation were done basing on minimum salary as provided for by law and factoring increments. This can be seen as presented in the graph below.

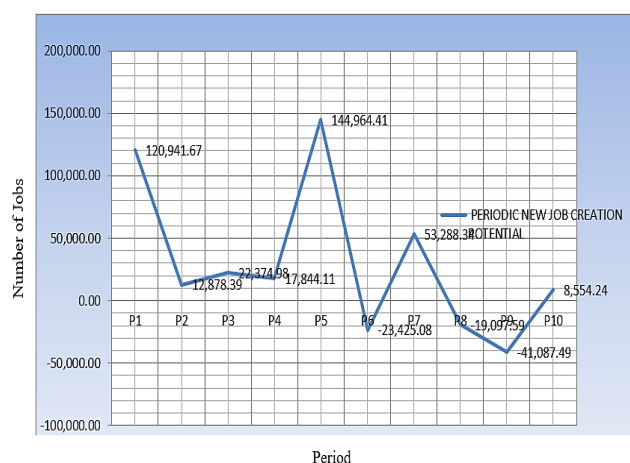


Figure 1: Estimated Annual Job Creation Potential Missed

From figure 1, it can be seen clearly that variations could have been witnessed if importation values were converted to local production. For example during period 5 estimates as seen in the graph suggests for high job creation, with an estimated job creation potential of 144,964.41 jobs. Also, period 9 appears to be the worst period with a negative job creation potential of (41,087.49).

3.4 Estimating Welfare through job Creation Spillover Effect

To estimate likely household welfare from spillover effects of job creation, a simple approach was employed basing on average household size of 5.

This was estimated as seen in the table below:

Period	Job Creation Potential (A)	Average Household Size (B)	Estimated Number Of People To Experience Improvement In Welfare (C)=(A)*(B)
P1	120,941.67	5	604,708.35
P2	133,820.06	5	669,100.30
P3	156,195.04	5	780,975.20
P4	174,039.15	5	870,195.75
P5	319,003.56	5	1,595,017.80
P6	295,578.48	5	1,477,892.40
P7	348,866.82	5	1,744,334.10
P8	329,769.23	5	1,648,846.15
P9	288,681.74	5	1,443,408.70
P10	297,235.98	5	1,486,179.90

Analysis suggested clearly that in period 7, community welfare could be significantly high when compared with other periods as many jobs were available implying an income source to households. With assured income source to several households, improvements will be recorded in community welfare as households will be able to send their children to school, cater for hospital bills as well as crime rate may be significantly lower.

3.5 Estimation of Missed Revenue (from Personal Income Tax) Generation

Estimation was done to establish the amount of revenue that could have been generated through personal income tax if local production was prioritized over importation. The personal income tax rate used was 16.5 % as provided for by law. This can be seen in table 5 below:

Period	Adjusted Cumulative Import Value (Millions Fcfa)	Estimated Annual Wage Per Head (Millions Fcfa)	Adjusted Estimated Annual Wage Factoring In Increments (Millions Fcfa)	Job Creation Potential	Periodic Job Creation	Income That Could Have Been Generated Through Taxation (Million Fcfa)
P1	40,636.40	0.336	0.336	120,941.67	120,941.67	6,705.01
P2	46,703.20	0.336	0.349	133,820.06	12,878.39	7,696.33
P3	56,698.80	0.336	0.363	156,195.04	22,374.98	9,344.55
P4	65,786.80	0.336	0.378	174,039.15	17,844.11	10,856.13
P5	125,368.40	0.336	0.393	319,003.56	144,964.41	20,681.79
P6	120,891.60	0.336	0.409	295,578.48	-23,425.08	19,957.10
P7	148,268.40	0.336	0.425	348,866.82	53,288.34	24,455.82
P8	145,758.00	0.435	0.442	329,769.23	-19,097.59	24,041.74
P9	132,793.60	0.435	0.46	288,681.74	-41,087.49	21,918.61
P10	142,078.80	0.435	0.478	297,235.98	8,554.24	23,431.59
Mean				246,413.17	29,723.60	16,912.24

Data Source: computed by researcher from data collected through webography from FAO, USDA, Macrotrends and Knoema sites accessed in June 2021

- Notes: 1. For the period 2000 to 2013, minimum wage was 28,000 FCFA
 2. For the period 2014 to 2019, minimum wage was 36,270 FCFA
 3. Wage increment utilized is 4% as provided for by law
 4. Personal Income Tax used is 16.5% as provided for by the law

As can be seen from table 5, estimates indicate that for periods 1 to 4, a gradual rise in revenue generation could have been recorded should wheat importation had been disfavoured and local production promoted. Highest potential that might have been attained stands at 10,856,130,000 FCFA in period 4. Further at period 5, estimates suggest could have recorded the higher percentage change with revenue values reaching 20,681,790,000FCFA. From period 6 to period 9, estimates show gradual variations on how revenue generation could have look like with period 7 recording the highest estimated value of 24,455,820,000FCFA.

4. DISCUSSION

Estimates indicate clearly that wheat importation quantity and value in FCFA is significantly high at 1,281,230,000,000FCFA averaged at

64,061,500,000FCFA in the last 20years. The high importation value is an indication of very low-level wheat production; hence the country is not among the key wheat-producing countries in Africa (Tadesse et al., 2018). Further, when observed about the country's drive of emergence by 2035, this high importation of an agricultural product given the favorable climatic conditions in Cameroon for local production makes the situation more disturbing. The question that may be asked in this respect could be if Cameroon has not seen how emerging economies are capitalizing on climatic conditions and becoming more of exporting countries for agricultural products?. It may thus be argued that should this COVID 19 pandemic persist such that major wheat-producing countries may find it difficult to produce high quantities or restrictions make exportation difficult then Cameroonians will significantly suffer.

Such an argument will fall in line with IMF (Muyiramy and Addom, 2020). African Dept, who highlighted a -1.6 contraction in sub-Saharan African economies due to restrictions by other countries and disruptions in food supply chains resulting from the effect of COVID 19. Results relating to job

creation estimation suggest high job losses due to the high importation of wheat in Cameroon. Drawing from the study estimation approach, on average, the lost job creation potential periodically stands at 246, 413.173 jobs, with a periodic new job creation potential of 29.723.60 jobs, during the last 20 years. When compared with other countries, it may be argued that Cameroon is losing a lot by importing wheat. For example, in the year 2014, estimates suggested that wheat farming created nearly 8,200 jobs in the Washington state in the USA (Nadreau and Fortenbery, 2016). This thus calls for urgent action given that economic emergence goes with improvements in welfare that are readily achieved when jobs or employment levels are high in the country.

For sure, community welfare could have experienced significant improvement if wheat importation was substituted with local production in Cameroon. This could have been attained as households working in the wheat value chain could have been assured income sources. With the income they could have been making, they would be able to cater to their basic needs including health care. This would translate to improved welfare for the communities, especially wheat farming communities.

While the government continues to borrow money to finance developmental and welfare-related activities in the country, estimates in this study suggest that the government is missing a lot of revenue that could have been generated if local wheat production was promoted over importation. For example, according to study findings, the average estimated revenue that could have been generated from personal income tax stands at 16,912.24 million FCFA (16, 912, 240, 000FCFA), a periodic loss because wheat farming has not been promoted to create local jobs. Thus, an estimated cumulative amount of 169,088.67 million FCFA (169,088,670,000FCFA) could have been generated from personal income tax for the last 20 years. For sure, this amount could have helped the government invest in other activities as such fostering the economic emergence drive, anticipated for the year 2035.

5. CONCLUSION AND RECOMMENDATIONS

The study revealed that wheat importation is very high while production is very insignificant in Cameroon. For the period 2000 to 2019, wheat importation averaged at 0.84 thousand metric tonnes while importation averaged at 513.85 thousand metric tonnes. Further, estimates relating to missed job creation potential indicated that should the amount of money spent on importation were invested on local production, other things being equal, averagely 246,413.17 jobs could have been created in the wheat farming in Cameroon. This suggests a missed periodic job creation potential of approximately 29.723 jobs. Again, building on jobs creation potential and assuming average household size of 5 members, the study estimated missed household welfare which could have been attained. According to the study estimates, averagely about 1,230,000 people could have experienced an improvement in welfare if local wheat production was prioritized. Concerning missed local revenue generation through taxation, estimates showed that with 16.5% rate, a total of 169,088,670,000FCFA, an average of about 16,912,240,000FCFA could have been generated each period from personal income tax levied on those directly employed in the production of wheat in the period 2000 to 2019. This revenue could have helped the government carry out one or two developmental activities in the communities as such improving welfare and contributing to the attainment vision 2035.

Based on the study findings the following recommendations are made:

- 1) Government and non-governmental organizations should make efforts to support and promote local wheat production in Cameroon. Such efforts may include support with improved seed varieties, farming tools, credit, market information and linkages to markets. Such action this study thinks may serve as a motivation to many young people to engage in wheat farming and thus may significantly improve the local production volumes.
- 2) Government should put in place a systematic policy to limit wheat importation volumes into Cameroon. With this approach, the need for wheat may motivate local production. This may be programmed like a 5 year policy agenda, will gradual reductions in importation volumes so that local production also fills up to ensure continuous activities. Apparently, this approach will stimulate local production and result in positive gains given that ecological conditions in Cameroon are favorable for wheat production.
- 3) A study may be concluded to establish likely benefits missed by

estimating benefits through studying wheat value chain actors should wheat production was encouraged in Cameroon. Such a study will provide more evidence to support the current study and hence providing more lessons for consideration.

- 4) A similar study adopting same methodology may be conducted on other cereals like Rice. Results of such a study when combined with those of this study may serve as an eye opener to the government and may thus force the government to take action to promote local agricultural production notably or cereal crops like wheat and rice.

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