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Economic Analysis of Fish Traders Access to Formal Finance in Cameroon

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Abstract

One of the major constraints to fish trading is limited access to formal credit. The main goal of this research was to carry out an economic analysis of fish traders' access to formal finance in Cameroon. This research makes use of primary data on total weekly income of traders, availability of surety, interest rate charged, loan payback period, experience, market information, and fish traders' access to formal credit collected with the use of a questionnaire. The Logit model was used for analysis and the logistic regression done using STATA. Descriptive statistics and econometric estimation revealed that, educational level, total weekly income of traders, availability of surety, interest rate charged, loan payback period and experience are significant determinants of fish traders' access to formal finance. This study therefore, recommends that government should intervene through the use of its specialized tools in creating agricultural banks with low interest rate and adequate loan payback period so as to improve financing of agricultural activities.

1. Introduction

Finance relates to monetary products and services used as transaction enablers for the development of business firms or living conditions. These products are cash, loans/credit and stocks/bonds. Formal finance deals with commercial banks, micro financial institutions, development banks, central banks and stock markets exchange. It is through the formal finance that the government employs direct monetary control on the money using the instruments that include bank credit, government papers, government debt/bonds and commercial papers. In Cameroon, commercial banks are the most important formal finance institutions. There exist also micro financial institutions which are dominant within the financial market. The decision to grant a loan application by bankers depends on factors such as security (customer's worthiness and loan's security), life insurance, and liquidity of the asset being presented as collateral. Bankers prefer collateral to be an asset which is easier to convert into cash within a short period of time. Most banks usually grant short term loans lasting less than two years. However, long term loans (five years) can also be granted on special terms purpose of the loan. Loans on risky ventures are hardly granted or when granted they carry a high rate of interest.

For Small and Medium Enterprises (SMEs), there are two external financing that are mostly important for financing the businesses. The first is the equity financing which is provided in the form of venture capital to new small businesses (Shkodra and Shkodra, 2018). However, due to lack of equity financing, the small businesses

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go after debt financing that is mostly provided by the banks and non-banking institutions. Access to debt financing is very limited especially for SMEs due to the requirements for the provision of debt. Formal sources of finance are organizations which are owned, controlled, licensed and registered or regulated by the government. These include the commercial banks, state owed banks, agricultural development banks and rural banks. Examples of formal sources of finance in Cameroon include; BICEC, SGBC, CIC, ECOBANK, UBA, Atlantic Bank amongst others. Most of the commercial banks are active in urban centres financing trade business while the agricultural development banks are usually situated in rural communities serving mostly farmers. They provide transfer, savings, and lending services. Chowdhury (1993), opined that the number of loans from the formal financial institutions in the developing countries obtained by rural borrowers is low. The reason for that is complicated and lengthy loan procedures that often overwhelm the poor and uneducated farmers. Also, obtaining loan from formal sources overburdens the rural borrowers in terms of slow release of the funds and higher transaction costs, which lead them to borrow from informal sources instead. Moreover, some restrictive features of loans also affect them. One is the credit scope which is limited to only a specific commodity, and another is the security required by the borrowers to support their credit (collateral securities). In some cases, many remote rural areas lack banking and other institutional facilities and credit services. The direct competition in the banking industry may impact growth of new firms and younger firms. If there is low competition, this will undermine the overall stability of the banking industry. In addition, the products and services might be expensive and there will be less growth of new firms (Anzoategui et al., 2010).

Agricultural finance is the principal sources of rural credit. Moreover, Micro Finance Institutions (MFI), whose number is increasing constantly, play an important role in savings and short term credit. There are also networks, saving societies and non-affiliated credit schemes, thrift and credit groups as well as organisations under the framework conventions (Aschauer, 1989; African Development Bank, 2009, Gelb et al., 2015). Their financial services depend on the institutions of commercial banks, investment, mutual or cooperative credit banks, revolving savings and credit association, NGO, input suppliers, agricultural processors and dealers, retail and trade, friends and neighbours, pawnbrokers, among others. The World Bank underscored the diversity of the informal financial sector, as well as its importance and operational advantages, while showing that pawnbrokers are only a small proportion of informal credit agents (IMF, 2010; World Bank, 2020). Financial institutions must be sustainable if not would be portend to the rural population only transitory advantages and their difficulties might impede the possible emergence of other rural financial institutions.

In the Cameroon's economy, fish production keeps increasing due to rising urban demand and the growing importance of intra-regional markets with other neighbouring countries such as; Chad, Central Africa Republic, Gabon, Equatorial Guinea, Nigeria and others. Commercial fish production was introduced in Cameroon in 1948 and the country has since then launched several projects in aquaculture to enhance the adoption of fish farming (MINEPIA, 2009, UNCTAD, 2006). Fish products are one of the most important group of vertebrates serving as food for human. They possess great economic, nutritional, medicinal, industrial, aesthetic and religious values. Fish value chain activities provide employment for millions of people. They contribute to food security in many regions of the world, providing a valuable supplement for diversified and nutritious diets. Edible tissues of fish are appreciably greater than that in chicken, pig and sheep/goat. It provides tasty, low calorie meal but is also a good source of high quality protein. Fish is an almost zero carbohydrate food, good for diabetes and other such patients. The protein content in fishes varies from 15-30% on wet weight basis and 60-80% on dry weight basis. Fish is a good source of vitamins A, B and D and also offers a good source of calcium, iodine, fluorine, magnesium and zinc. Fish is rich in poly unsaturated fatty acids containing omega-3. Regular consumption of fish can reduce the risk of various diseases and disorders (FAO, 2010; FAO, 2012). Some findings indicate that fish helps in the treatment of certain diseases such as Asthma, brain and eyes, cancer, cardiovascular disease, depression, diabetes (Adger, 2010; Esemu, 2014; Nguyen et al., 2016) . Recently, the government has started giving priority to the fish sector to set up a legal strategic framework governing fisheries and aquaculture in Cameroon.

In Cameroon, fish farming occupies an area of about 250ha, with an estimated population of 10,000 fish farmers, and a population consumption rate of 247,500 tons/year (FAO, 2019). Artisanal fish production in Cameroon has faced an upward trend from 1950 till date. From 1950 to 2016, the production stood at around 20000 tons/ year to 170,000 tons in 2016 respectively (figure 1). Artisanal fish production in Cameroon has faced an upward trend from 1950 till date. The sector witnessed a drop in production between 2000 and 2005 from about 90,000 but for over a decade now, the production continues to rise.

Fish traders living in rural areas far from financial institutions find difficulties increasing their scale of production since there is a complexity in the administrative service procedures in acquiring formal finance; this will always lead to poor performance in terms of output due to low capital. With all this challenges, fish traders access to formal finance will only be resolved if some of the constraints are identified and better recommendations made. Generally, both the users and providers of financial services face some common

obstacles in getting and providing financial services including high transaction costs. This is due to the underdevelopment of infrastructures, inadequate communication and information technology, and the remoteness of the areas. Higher risks: credit risk is too higher because the incomes of the operating households depend on seasonality that is being susceptible to natural disasters including flood, drought, pest and diseases, and fluctuating weather (Busch and Bain, 2004; Berger, 2011; Esemu, 2014; Fadeyi, 2018).

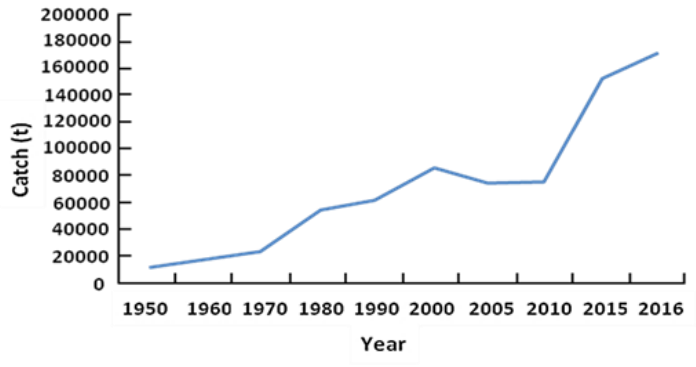

Figure 1. Reconstructed artisanal fishing in Cameroon waters from 1950 – 2016

Source: FAOSTAT, 2020

According to World Bank (2000), the most common factors inhibiting the rural financial markets include: weak institutional capacity of Rural MFIs due to poor governance and operating systems and low skills of management staffs, low business and financial skills of potential customers especially; policy constraints on financial and agricultural markets that limit profitability, inadequate physical and financial infrastructure, dominance of state-owned banks operating on none-commercial principles.

Agricultural credit is one of the important interventions to solve poverty, and plays an important role in agricultural development. Expanding the availability of agricultural credit has been widely used as a policy to accelerate agricultural and rural development (Berger, 1998; Alston et al., 2000; SIDA, 2004; Akinyinka, 2014). Credit continues to appear prominently in developing strategies for the agricultural sector in Cameroon. Credit plays an important role in agricultural development and it is also a key to poverty alleviation, livelihood diversification and increasing the business skills of fish traders. The formal financial system is currently meeting some of the demand for financial services from the agricultural production and fish trading sectors, but access to finance is generally limited to larger operators, both fish farmers and fish traders (Brummett et al., 2008; Blakeney et al., 2011). Sometimes, even for larger customers, there is unmet demand for less traditional financial products, including term loans and price buffering mechanism. Handling large volumes of commodities requires more working capital. Only the largest fish traders currently benefit from bank advances secured by warehouse receipts. There is a scope to improve the efficiency and lower the cost of managing stored products as collateral, this is to enable more fish traders to take advantage of the mechanism and the improved borrowing terms that can result. Efficient trading needs better logistics specially equipment, storage facilities and appropriate transport for larger volumes (Beck and Demirgüç-Kunt, 2008; Berger, 2011; Al Balushi, 2019).

Access to finance has heavily been reported by other farmers. Other scholars around the world have shown that finance is significant to agricultural development. Poor or limited access to finance really affects the economy of the country (Chowdhury, 1993; Beck et al., 2003; Osei-Assibey, 2011; Akinyinka, 2014; Fadeyi, 2018). It is the case of Cameroon where the banking sector is traditional, with low saving schemes and also the perception that agriculture is a very risky venture. Poor access to formal financial institutions is among the major constraints to the development of fish farming in Cameroon, both state-owned and private banks are reluctant to finance fisheries' projects because they are unfamiliar with the sector and are not prepared to carry out proper risk assessment analyses. The sector is considered to be highly risky due, among other things, to the concerns about stock mortality. The banks ask for specific guarantees and most of the fish traders are not able to provide them (FAO, 2007; Brummett et al, 2008; FAO, 2013). One of the major constraints to fish traders in the country is limited access to formal credit. This is due to the complex administrative service procedures that are beyond the knowledge and understanding of the fish traders. So this research examine economic factors limiting the access of fish traders to access to finance.

Fish traders are mostly on very small scale because most of them being illiterates have problem of acquiring assistance from the banking institutions. Illiteracy is one fundamental financial risk because interpretation and filing of forms at banks for loan processing may be done by another person. In consequence, they prefer the

informal financial system which is characterized by easy access, flexibility in loan provision, rapid processing, flexibility in interest rates and collateral requirements (Pouomogne et al., 2010; Simonovska et al., 2012). Due to the nature of operation of women in the informal sector including "buyers and sellers", they also find it very difficult to get close links with banks to acquire financial assistance in order to expand their business (Lamberte and Manlagnit, 2003; Kihimbo, 2012). The general perception includes high interest rates charged on loan by the formal financial institutions, physical collateral required, intimidating form filing, slow disbursement of loans, untimeliness of loans, delays in withdrawing funds, mistrust when banks fail/officials abscond and distance to travel (Osei-Assibey, 2011; Shkodra and Shkodra, 2018; Anonymous; 2020). Although the interest rate offered to borrowers is regulated, transaction costs in terms of the number of trips to be made and the documents to be furnished, plus the illegal charges to be paid, result in increasing the cost of borrowing, thereby making loans less attractive for borrowers.

Fish trading is the marketing and sale of fish products. It can be dedicated to wholesale trade between fishermen and fish merchants, or to sale of seafood to individual consumers, or to both. Retail fish markets, a type of wet market, often sell food as well. Retailers buy fish from wholesaling centres and secondary markets. They sell fish directly to consumers either through fixed stalls or by vending from head/rickshaws. From the start of the distribution channel for fish at the secondary markets to the city or terminal markets, intermediaries operating on different levels perform marketing functions like cleaning, sorting, boxing, icing, re-packing and arranging of transportation (Twerefou et al, 2011; World Bank, 2014). At each market traders may be supplying fish to local consumers. Most of the farms are located in rural areas and transport costs are high. This affects the cost of raw materials, the cost of production and thus the earnings. Farmers produce fish to make money. Domestic markets, particularly around urban and sub-urban zones, may provide the impetus for change, with urbanisation, due to population growth and rural-urban migration growing at some 7-10% per year (Beck et al., 2003; Brummett et al., 2008 World Bank, 2014).

Since fish traders do not always make meaningful profit, they are mostly scared to attempt for assistance from formal financial institutions and then do not attempt to acquire such facilities at all. There is always no record keeping on their sales and if there is one, it is poor because most of them have no fixed addresses and management skills. Another problem faced by fish traders is the perception of policy makers and bankers. Policy makers feel that farmers/fishers and poor people need low interest or subsidized credit (Osei-Assibey, 2011; Languitone, 2016; Osano and Languitone, 2016). And then, the interest rate is regulated. The administrative costs of servicing small loans are high. Apart from that, small loans have been used as a tool for disbursing political patronage, undermining the norm that loans must be repaid and thus making the mainstream institutions feel that such loans are risky. The diagram below (Figure 2) shows the causes and effects relationship of access to finance by fish traders;

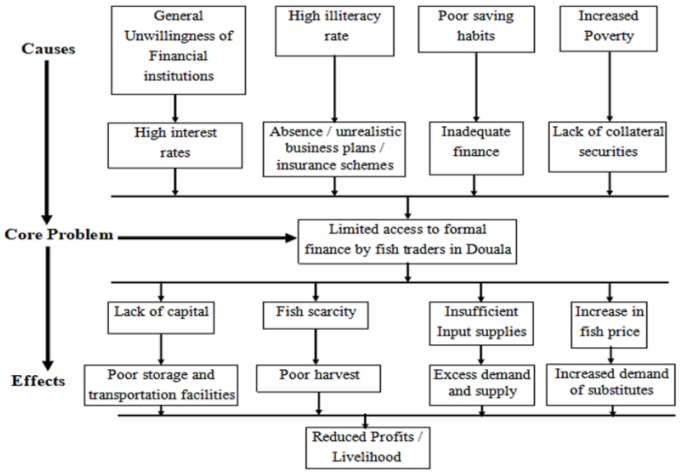

Figure 2. Cause and effect diagram of fish traders' access formal finance

Source: Author's conceptualization, 2019

A customer has to show collateral before loans are approved in banks institutions. Another problem encountered by the fish traders is storage. There is limited storage facilities in markets as they are open sheds and not enough lockable stores, their goods (fish) are sometimes stolen. Also, no or very little security has been out in place to ensure safety of their products (fish). The instability of the inflows of the market of fish traders also contributes to their inability to acquire loans from the formal financial institutions. Mostly, fish traders lack finance to purchase more goods to be productive or even meet their capital requirements. The loan accessibility issues in

formal financial institutions by fish traders requires more assessment. This research seeks to investigate the relationship between the access to formal finance and the profitability of fish traders.

The present research is supported by the Risk Theory, the Asymmetric Information Theory (AIT), and the Pecking Order Theory (POT). Risk theory captures all theories in economics that deal with risk. Understanding risk is a starting point to ensure producers make good management choices in situations where adversity and loss are possibilities. Although measurement of risk is clearly important, quantification does not always tell the whole story, and not all risks are quantifiable (Adger, 2010). The Asymmetric Information Theory (AIT) argued that smaller and younger firms tend to report higher financing obstacles than larger and older firms (Berger, 1998; Becks et al., 2003; Beck and Demirgüç-Kunt, 2008; Berger, 2011; Becks, 2003, 2008). However, imperfect information and high transaction costs are factors driving the limited access to external formal finance by small and medium enterprises (Stieglitz and Weiss, 1981; Stigtizt, 1990). The Pecking Order Theory (POT) developed by Myers (1984) states that enterprises finance their businesses in a hierarchical manner. The theory suggests SMEs prefer to choose internal financing sources (personal funds, retained earnings and profits) with relative lesser costs and they only turn to external finance (debt and equity) when internal funds are exhausted or inadequate. The theory is very much relevant to fish traders financing based on its low capability features and acute lack of external debt and equity in developing countries like Cameroon.

Hence, steady and consistent access to finance for the smallholder farmers is critical for the much required growth needed in the agricultural sector, hence agricultural financing. Many benefits relate to reduction of vulnerability, poverty and increased farm efficiency and sustainability. Recent findings also show that income has positively influenced access to formal credit. Farmers with high farm income have more probability of access to formal and informal credits and have better abilities of repaying loans given to them by financial sources. Furthermore, most of smallholders are borrowing credit from relatives, input suppliers, and fellow farmers. Large famers have more access to credit from institutional sources compared to smallholders. The main reason for this is their possession of more collateral, high income level and social status. A significant difference between women farmers who accessed credit and their counterparts who had no access. The role of finance is important to grow the firms including farmer which is argued by many researchers and experts. Microfinance is the provision of a broad range of financial services such as deposits, loans, payment services, money transfers, and insurance to poor and low- income households and, their micro-enterprises. Poor credit supply is one of the factors responsible for the poor performance of the agricultural sector in Cameroon. Agricultural credit can enhance farmers' managerial efficiency and encourage efficient resource allocation and profitability

In 2012, the import of fish in Cameroon increased by 30%. This was evaluated at 200 million US dollars. And yet Cameroon offers enormous potential for the production of fish. Investors and youth (men and women) have been urged to invest in the sector that generates employment and income (MINEPIA, 2009). To achieve this, a framework for the development of the rural sector has being undertaken by the government in order to boost the production. Cameroon set about reviving aquaculture in order to meet the strong demand as a result of the increasing population and to reduce massive outflows of foreign exchange (FAO, 2012).

Loans are considered as an important instrument for increasing agricultural production and revenue growth, through new technology to get inputs and increase productivity (Shkodra and Shkodra, 2012). Policies such as concession lending practices, interest rate coverage, and credit crunch programs could create barriers to private sector lending, creating problems for the government to provide agricultural loans (World Bank, 2020). Osano, and Languitone (2016) conclude that private lending promotes local economic development by increasing entrepreneurial possibilities for farmers and increase their non-agricultural income. Osei-Assibey (2011) indicates that rural households reduce their precautionary savings if they have access to the informal credit market. However, Fadeyi (2018) argues that microfinance formal or informal loans increase farmers' income by increasing their off-farm working time. Many factors have been considered for the purpose of explaining the scarcity of bank financing by SMEs. Anzoategui et al., (2010) have suggested that competition in financial sector is more crucial. The lack of it can actually raise the price of financial products and influence directly the growth of small firms and the younger firms in the world. They have also added that the low level of competition in the financial sector can probably affect the stability of the banking industry. Esemu (2014) argued that agricultural finance can be profitable even in a country like Uganda as banks in other countries have demonstrated. But the agricultural sector demands a specialized, innovative approach and that loan terms must be matched to the agricultural cash cycle, food example, and mechanisms must be built in to guard against the risk of unforeseen changes in prices. Examples of such development include: the use of non-traditional forms of security, agricultural equipment leasing, developing the agricultural insurance market, developing hedging mechanisms and exploring the use of international lines of credit and risk mitigation.

Financial challenges facing by fish traders are lack of adequate finance access to credit, high interest rates and new laws and regulation. These factors are interconnected and intertwined in terms of policy direction and overall effectiveness in addressing fish trader financial challenges. The literature clearly documented fish traders financing constraints from the formal financial sector in developing countries due mainly to weak financial and institutional development, collateral issues and inability of economies to address supply-side constraints. These financial challenges affect fish trader performance, they have lots of impacts on business growth, profitability and financial innovation. All these issues demand the development of a clear policy framework in order to mitigate the financial challenges and release the fish traders from current quagmire they are facing. This will improve the overall performance of fish traders, create employment opportunity, innovative products and enhance the overall economic growth. It was also clearly observed that better financial institutions in terms of structure and policy, favourable regulations improve the performance of fish traders in terms of growth. The literature confirms that institutional and financial developments matter in enhancing enterprise access to formal external financial debt; in this regard, building institutional capacities, it the strategic role of the government (Beck and Demirgüç-Kunt, 2008). Increasing research and financial innovation due to the availability of credit facilities from lenders has a positive effect on product innovation and this enhances sales and profitability. Information technology is very critical for information dissemination and for provision of competitive edge. If all these issues are consolidated and addressed through policy framework and infrastructure, the performance of fish traders will improve and this has a positive impact on the economic performance. Consequently, the study contributes to literature by examining the impact of access to formal finance by fish traders in Cameroon. This is basically a descriptive study that focuses specifically on the experiences of the beneficiaries of finance. Further, understanding the factors that drive stakeholders' perceptions may yield information that can be strategically used to improve these attitudes.

2. Research Methodology

This study was carried out in the coastal city of Douala, Littoral Region, of the Republic of Cameroon from March to June 2019. It is the economic capital of Cameroon and is the principal seaway into the country. The city is located at latitude 4° 0'0'N and longitude 40° 0'0'E. It is the outlet of the river Wouri. The climate is the equatorial type, hot and humid with a dry season from December to May and a rainy season from June to November. The coastal zone is characterized by production and transformation of fish.

Finance is a significant element for determining the growth and survival of fish traders. Without finance, fish traders will probably not be able to compete both in national and international markets, to expand the businesses and strike linkages of business with the large firms. Furthermore, access to finance is the most severe hurdle to expansion of businesses. This can be viewed on the figure 3 below:

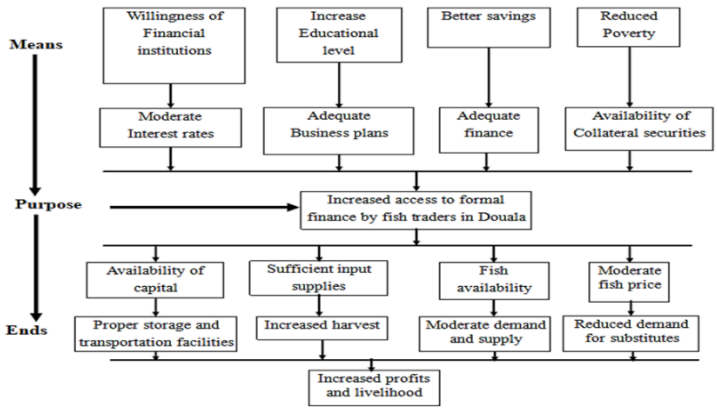

Figure 3. Means and ends diagram of fish traders' access formal finance

Source: Author's conceptualization, 2019

The indicators of access to finance include the amount of financing provided to the fish traders as total funding, increase in the number of fish traders accessing bank loans, and percentage of financing as a total of fish traders' funding. Improvements in access to formal finance affecting fish traders will lead to the improvement of availability of capital, improvement in sufficient input supplies, increased fish availability and moderate fish price.

The primary data was collected from fish traders using structured questionnaires. Beside this, informal survey was also employed to gather information from different market participants in the fish marketing chain. The purposive sampling technique was used for the selection of respondents. The study had two parts: the market and the household surveys. The market survey was employed in three markets, Youpwe market in Douala II subdivision, Bonassama and Mambanda in Douala IV subdivision. The selection of local sample markets was based on the number and availability of local fish markets in the Municipality. The marketing information was collected using purposefully selected market participants (Fish traders) in fish markets based on the number and category of traders, mobility of the traders among the sample markets and also informal discussions with key informants in the marketing system. Informal discussions were held with respondents selected from fishermen, traders, and consumers groups in the fish marketing system. Moreover, Rapid Market Appraisal (RMA) technique was employed using checklists from market participants in all stage to obtain additional supporting information for the study.

Data generated was analysed using descriptive statistics and logit model. The logit model was used to examine the determinants of access to credit by fish traders in the study area. It is specified thus as equation (1) below:

$Y = Ln\ (P_i/1\text{-}P_i) = \beta_0 + \beta_1 X_i + e_i$ ……...…… (1)

Where Y is the dichotomous dependent variable which takes the value of 1 if the fish trader has full access to finance that is $[P_i\ (Y=1)]$ and 0 for otherwise that is, $[P_i\ (Y=0)]$;

β_0 = the intercept;

β_i = the regression coefficients to be estimated;

e_i = the error term;

Xi = the independent variables (i = 1, 2, 3… n).

The explicit form of the model is given as equation (2):

$Y= Ln\ (Pi/1\text{-}Pi) = \beta_0+ \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + \beta_8X_8 + \beta_9X_9 + \beta_{10}X_{10} + \beta_{11}X_{11} + \beta_{12}X_{12} + \beta_{13}X_{13} + e$ …..... (2)

Where,

X_1 = Gender of fish trader, dummy variables 1 if male and 0 if otherwise

X_2 = Age in years

X_3 = Household size, in numbers

X_4 = Marital status, dummy variables that is, if married = 1 and 0 if otherwise

X_5 = Educational level, total number of years spent in school

X_6 = Total weekly income of traders in FCFA

X_7 = Availability of Collateral, dummy variables that is, 1 if yes and 0 if no,

X_8 = Interest rate charged in percentage

X_9 = Loan Payback period, dummy variables that is, 1 if long-term and 0 if short-term

X_{10} = Cost level of fishing, dummy variables that is, 1 if large size business and 0 if small size business

X_{11} = experience, in years of fishing and trading

X_{12} = market information, dummy variable and assigned with 1 for those households who have easy access marketing information and 0, otherwise

X_{13} =access to extension services, dummy variables that is 1 if yes and 0 if no

3. Findings and discussions

Analyses revealed that, 68.6% are full time fish traders and 31.4% are part time traders out of the 70 fish traders interviewed in fish markets in Douala. The age range examination shows that most of the fish traders fall in the range of 20-30 years (38.6) followed by 25.7% within the range of 41-50 years and 25.7% in the range 31-40 yearsThe survey reveals that 20.0% of fish traders are single, about 60.0% are married while 5.0 % are divorced, and about 15.0 % of the farmers are widows (ers). 57.1% of the fish traders are males while 42.9% are females, showing that there are more males involved in fish than females. It shows that 56.7% of the fish traders don't

have other income generating activities while 43.3% have. This research work reveals that 31.7% of the fish traders' household composes of 1-3 persons, 55.4 % are 4-6 persons, 10.0% are 7 – 9 persons, and 2.9% are 10 and above persons. The level of education This reveals that 17.1% of the farmers have no formal education, 41.4% are primary school leavers, 22.9% are secondary school leavers and 18.6% are University/higher education leavers.This reseach also reveals that 31.4% of the fish traders belong to cooperatives and 68.6% do not. About 31.7% of the household heads said their main source of proteins is fish, while 35% said chicken, meanwhile 20% choose chicken and the least 13.3% responded mushroom. Only 31.4% of fish traders have access to extension service while 68.6% of them do not. About 35% of the fish traders have access to formal agricultural finance while 65% do not and only 32.9% of the traders are in possession of collateral securities.

In estimating fish traders' access to finance in Douala, the logistic regression technique was employed. The results obtained are presented in table 1, below. Results show that the estimated coefficient for the intercept is the magnitude of the fish traders' access to formal finance given that the predictor variables are held constant.

The coefficient is -6.476319, this means fish traders' access to formal finance when gender, age, household size, marital status, educational level, total weekly income of traders, availability of surety, interest rate charged, loan payback period, experience, market information, and access to extension services are held constant, the coefficient is decreasing. The gender coefficient is 1.186856; it depicts a positive relationship with fish traders' access to formal finance. Male fish traders are more likely to have access to formal finance than female fish traders. More specifically, male fish traders have 18.7% more access to formal finance than female traders. This can be attributed to the fact that, male fish traders may possess more assets.

Table 1: Factors affecting fish traders' access to formal finance

Variables	**Coefficients**	**(P-Values)**
Educational level	1.507792	0.048
Weekly income	1.805100	0.039
Availability of surety	2.580166	0.050
Interest rate charged	- 8.562318	0.019
Loan payback period	-3.684782	0.010
Experience	0.3881638	0.036

Source: Analysis by author, 2019

Age coefficient is positive; for an increase in age of fish trader by 1%, the likelihood of access to formal finance may increase by 19.5%. This is because, age is a major determinant of fish traders' access to formal finance. Age goes with experience and sense of responsibility. Financial institutions will be more willing to give loans to those older than youths who can easily flee. Formal financial sources have track records of loan delinquencies especially by youths. There is a positive relationship between household size and access to formal finance. In specific terms, 1% increase in household size will lead to 51.4% more chances of accessing formal finance. This is evident especially due to the fact that larger households, provide more labour force in the fishing activity and this gives more assurance/ guarantee to the financial institutions. There is a direct relationship between marital status and fish traders' access to formal finance, implying married fish traders will have the higher likelihood of accessing formal finance than unmarried, divorced, widows(er). Increase in number of married fish traders, will increase access to formal finance by 46.6%. The coefficient for educational level depicts a positive relationship with access to formal finance. This in in accordance with economic and finance theory. The more educated the household head is, the more likely is he to have access to formal finance. An increase in the years of formal schooling, the more educated will the fish trader be and hence be aware of the different lending sources as well as the requirements. This will enable the fish traders to be able to draw up comprehensive and feasible business plans which will increase possibility of obtaining loans from formal financial sources.

Fish traders with higher total weekly income will have more access to formal finance. An increase in total weekly income by 1 franc is expected to increase fish traders' access to formal finance by 80.5%. This ties with the economic and finance theory and it can be attributed to the fact that fish traders with higher total weekly income will proof of profitability of the business and hence loan repayment capacity. Financial institutions will be willing to grant them loans because they see the fish trader's business as feasible and profitable. The surety coefficient shows a positive relationship with access to formal finance. For fish traders who have available sureties are 2.580166 times more likely to have more access to formal finance than without surety. The interest rate coefficient is negative. A unit increase in interest rates by 1% will lead to 56.2% decrease in fish traders' willingness to access formal finance even though formal financial institutions will be willing to give loans at

higher interest rate. On the other hand, fish traders will not be willing to go for the loans because of the negative implications on their total earnings and hence profitability. Interest rate is a key determinant of fish traders' access to formal finance. An increase in the loan repayment period of one year will lead to 68.5% decrease in access to finance by fish traders. Loan repayment period is also a key determinant of fish traders' access to formal finance. This is because it is expected that, the longer the loan repayment period, the more willing will fish traders go for loans. Long term loans give the fish trader the space/ time to recover and make more profits and repay.

The coefficient for experience is positive, therefore, an increase in years of experience of the fish trader by 1 year, the likelihood of access to formal finance might increase by 38.8%. Years of experience in the fishing activity is a major determinant of fish traders' access to formal finance. Experience goes with sense of responsibility and ability to understand how the fish trading business environment functions. Financial institutions will be more willing to give loans to fish traders with more experiences. The coefficient for access to market information is positive and indicates a direct relationship with fish traders' access to formal finance. Market information such as demand, price signals are key indicators and if the prices are expected to be high, it may trigger the fish trader to go for more loans to meet up with the high demand. But if the demand or prices are expected to be low, the trader will not be willing to go for loan. The coefficient for access to extension service indicates a positive relationship with fish traders' access to formal finance. An increase in the fish traders' access to extension agents will increase his access to formal finance by 88.3%. Extension service beefs up the fish traders' capacities, helps them through trainings on value chains, increase fishing techniques, as well as providing them with market information such as price signals demand, which are key indicators and if the prices are expected to be high, the fish trader will be willing to go for more loans to meet up with the high demand. But if the demand or prices are expected to be low, the trader will not. The significance level was obtained using the 95% confidence interval and at 5% level of significance. Results show that educational level, weekly income of fish trader, availability of surety, interest rate and experience are significant determinants of access to formal finance by fish traders in Cameroon.

Developments of policies to increase easy fish traders' access to formal finance will have a positive multiplier effect on our economy. This is fish traders are key players in the agricultural value chain because they are the bridge between the producers and consumers, and production is incomplete until it reaches the hands of the final consumer (UNCTAD, 2008; World Bank, 2020). Given the importance of finance in facilitating agricultural activities in Cameroon which is the economic capital of Cameroon, it is therefore important for there to be easy access to finance, effective value chains, price stabilization, so as to ease fish trade. The creation of financial cooperatives will aid enabling fish traders to adequately carry on with their daily activities.

4. Conclusion

The main goal of this research was to carry out an economic analysis of fish traders' access to formal finance in Cameroon. The econometric estimation reveals that, educational level, total weekly income of traders, availability of surety, interest rate charged, loan payback period, experience are significant determinants of fish traders' access to formal finance. Furthermore, the results show that 78.5% of the variation of fish traders' access to formal finance is determined by the predictor variables analysed. This study therefore recommends that government should intervene through the use of its specialized tools in creating agricultural banks with low interest rate and loan payback period so as to aid in financing agricultural activities. Fish trader should be encouraged to join farmer financial cooperatives thereby pulling their limited resources so as to reap economic benefits such as; thrift and loans, and also to establish rural savings and financial cooperatives that can help mobilize savings which can be used to create finance for those who want to borrow short term loans. Specialized farmer schools should be created to provide training and extension services in the fisheries sector so as to create effective value chains. The government should set floor and ceiling prices so as to stabilize fish prices and hence a positive multiplier effect on the fish traders. This study was limited to the economic analysis of fish traders' access to formal finance in Cameroon, further studies can focus on fish traders' access to informal finance, other agro-ecological zones. Not all the variables that affect fish traders' access to formal finance were analysed in this study, it thus proposes other research works be carried out with analysis of other predictor variables such as; collateral securities, cooperative membership, as well as technology.

References

Adger, W. (2010). Climate Change, Human Well-Being and Insecurity. *New Political Economy - NEW POLIT ECON*, 15. 275-292. 10.1080/13563460903290912.

Akinyinka, A. W. K. (2014). *Digging Deeper: Inside Africa's Agricultural, Food and Nutrition Dynamics.* Leiden, Boston.

Al Balushi, Y. S. (2019). Determinants of the decision to adopt Islamic finance: evidence from Oman. *ISRA International Journal of Islamic Finance, Vol. 11 No. 1,* , pp. 6-26. https://doi.org/10.1108/IJIF-02-2018-0020.

Alston, J. M, Wyatt T.J., Pardey P.G., Marra M.C., Chan-Kang C. (2000). A meta-analysis of rates of return to agricultural R and D. Ex Pede Herculem?. . *Research Report of the International Food Policy Research Institute.* , pp. 1-148.

Anzoategui, D., Martinez, P., Maria, S.; Melecky, M. (2010). Banking Sector Competition in Russia. Policy Research working paper ; no. WPS 5449. World Bank. © World Bank. https://openknowledge.worldbank.org/handle/10986/3932 License: CC BY 3.0 IGO.

Aschauer, D. (1989). Is Public Expenditure Productive? . Journal of Monetary Economics, Elsevier, Vol. 23 (2), pp.177-200.

African Development Bank (2009). Country strategy paper 2010 - 2014 Cameroon. *Regional Department, Center*, pp 44, https://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/CAMEROON_2010-2014%20COUNTRY%20STRATEGY%20PAPER.pdf

Anonymous (2020). Overview of Management and Exploitation of the Fisheries Resources of Cameroon, Central West Africa. https://www.oceandocs.org/bitstream/handle/1834/5228/overview%20management%20and%20exploitation%20of%20fishery%20resources%20of%20Cameroon.pdf?sequence=1&isAllowed=y

Beck, T., Demirgüç-Kunt A. and Maksimovic V. (2003). The competition of the bank and access to finance: international evidence. Journal of Money, Credit and Banking. Vol.36, No. 3, pp. 627-648

Beck, T. and HYPERLINK "https://elibrary.worldbank.org/doi/abs/10.1093/wber/lhn021" \o "Asli Demirgüç-Kunt" Demirgüç-Kunt A. (2008). Access to finance: An Unfinished Agenda. *World Bank Economic Review*, Vol.22, Iss.3, pp. 61-83.

Beck, T., Maksimovic V and Demirgüç-Kunt, A. (2003). Financial and Legal Institutions and Firm Size. *World Bank Policy Research Working Paper No. 2997*, Available at SSRN: https://ssrn.com/abstract=636359.

Berger, A. N. (1998). The economics of small business finance: the roles of private equity and debt markets in the financial growth cycle. *Journal of Banking and Finance*, 22,(3) 613-673.

Berger, A. N. (2011). Bank Size, Lending Technologies and Small Business Finance. *Banking and Finance*, Vol. 35, Iss. 3, pp.724-735.

Blakeney, M., Cohen, J.I. and Crespi S. (2011). Intellectual Property Rights and Agricultural Biotechnology-Addressing Research Program Needs and Policy Implications. CAB International, pp 209-227

Brummett, R., Lazard, J. and Moehl J. (2008). African aquaculture: Realizing the potential. Food Policy. 33. 371-385. 10.1016/j.foodpol.2008.01.005.

Busch, L., and Bain, C. (2004). New! Improved? The transformation of the global agrifood system, Rural Sociology, 69, 321-346. doi:10.1526/0036011041730527

Chowdhury, A. H. (1993). Rural Institutional Finance in Bangladesh and Nepal: Review and Agenda for Reforms. *Asian Development Bank*, 1-61.

Esemu, S. A. (2014). Fish Enterprise Financing and its Impact on Exports and Research and Development: The Case of Uganda's Fish Industry. *Institutions and Economies*, pp. 35-59.

Fadeyi, O. (2018). Smallholder Agricultural Finance in Nigeria: Literature Review on The Research Gap. *International Journal of New Technology and Research*, 4. 10.31871/IJNTR.4.8.9.

Fish statistics in Cameroon 1999-2016, http://www.fao.org/faostat/en/#data/TA [accessed on 18 November 2020]

Food and Agriculture Organisation - FAO (2019). National Aquaculture Sector Overview Cameroon. *Fisheris and Aquaculture Department*, pp.1-9.

Food and Agriculture Organisation - FAO. (2007). Gender policies for responsible fisheries – policies to support gender equity and livelihoods in small-scale fisheries. . *New Directions in Fisheries – A Series of Policy Briefs on Development* , Issues, No. 06. FAO. Rome, Italy. 8 pp. (also available at www.fao.org/3/a-a0990e.pdf).

Food and Agriculture Organisation - FAO. (2010). The State of World Fisheries and Aquaculture. *Rome*, pp162.

Food Agriculture Organisation - FAO. (2012). The State of World Fisheries and Aquaculture. Rome, Italy. pp209. (also available online at www.fao.org/docrep/016/i2727e/i2727e00.htm .

Food Agriculure Organisation - FAO. (2013). *Cadre de Programmation Pays Cameroun 2013 - 2017*. pp 52, http://www.fao.org/3/a-av227f.pdf

Gelb, A., Meyer C.J. and Ramachandran V**.** (2015). Development as Diffusion: Manufacturing Productivity and Africa's Missing Middle. Oxford Handbooks Online, 10.1093/oxfordhb/9780199687114.013.24.

International Monetary Fund - IMF (2010). Reserve Accumulation and International Monetary Stability. trategy, Policy and Review Department, pp35. https://www.imf.org/external/np/pp/eng/2010/041310.pdf

Kihimbo, B. W. (2012). Collateral requirements for financing of small and medium enterprises (SMEs) in Kakamega municipality in Kenya. *International journal of current research,* , 4(6), 21-26.

Lamberte, M.B. and Manlagnit, M.C.V. (2003). Integrating Gender Perspectives in Evaluating the Efficiency of COFI: The Case of Credit Cooperatives in the Philippines, PIDS Discussion Paper Series, No. 2003-06, Philippine Institute for Development Studies (PIDS), Makati City

Languitone, H. M. (2016). Factors influencing access to finance by SMEs in Mozambique: case of SMEs in Maputo central business distric. *Journal of Innovation and Entrepreneurship*.

MINEPIA. (2009). Plan d'action national de gestion integree. *Cadre financier , économique et social*, pp.236.

Myers, S. C. (1984). Corporate finance and investment decision when firms have information that investors do not have. . *Journal of Financial Economics,* , 13(2), 187- 221.

Nguyen, K., Jolly C.M., Bui C.N.P.T, Le. T.T.H (2016). Aquaculture and poverty alleviation in Ben Tre Province, Vietnam. *Aquaculture Economics & Management*, 20. 82-108. 10.1080/13657305.2016.1124938.

Osano, H.M. and Languitone, H. (2016). Factors influencing access to finance by SMEs in Mozambique: Case of SMEs in Maputo central business district, Journal of Innovation and Entrepreneurship, ISSN 2192-5372, Springer, Heidelberg, Vol. 5, Iss. 13, pp. 1-16, http://dx.doi.org/10.1186/s13731-016-0041-0

Osei-Assibey, E. (2011). Microfinance in Ghana: A comparative study of performance of the formal versus informal rural financial institutions. *Forum of International Development Studies*, 40, 151-175.

Pouomogne, V., Brummett, R.E. and Gatchouko, M.(2010). Impacts of Aquaculture Development Projects in Western Cameroon, Journal of Applied Aquaculture, Vol.22, Iss. 2, pp.93 — 108

Shkodra, J. and Shkodra L.(2018). Impact of agricultural finance in rural areas – Case study Kosovo. *Bulgarian Journal of Agricultural Science.* , 24. 737-741.

Simonovska, A., Gjosevski, D. and Campos, M. (2012). Capital structure and financial performance of agricultural companies – evidences from the Macedonian agricultural sector in transition. Paper prepared for presentation at the 132nd Seminar of the EAAE, Skopje, October 25-27, pp.21

Stiglitz, J.E., and Weiss A. (1981). Credit Rationing in Markets with Imperfect Information. *American Economic Review.* Vol.71, pp.393-410.

Stigtizt, J. (1990). Peer Monitoring and Credit Markets . *The World Bank Economic Review*, Vol. 4, Iss. 3, Pp 351–366

Swedish International Development Cooperation Agency - SIDA (2004). Is Microfinance a Good Poverty Alleviation Strategy? Making Markets Work for the Poor Series, pp 40 https://www.sida.se/contentassets/0e627d54256b44fca4230582829bb5f7/guidelines-on-microfinance_1101.pdf

Twerefou, D.K, Osei-Assibey E. and Agyire-Tettey F. (2011). Land tenure security, investments and the environment in Ghana. *Journal of Development and Agricultural Economics. Vol. 3*, pp.261-273.

United Nations Conference on Trade and Development - UNCTAD. (2006). Supply- Side Constraints on the trade performance of African Countries Trade Capacity Building Background Paper. *Roime, Italy.*

United Nations Conference on Trade and Development - UNCTAD. (2008). FDI from Developing and Transition Economies: Implications for Development. *World Investment Report*, 1-273.

World Bank (2000). Asian Development outlook 2000: The social Challenges in Asia. Pp 249. HYPERLINK "https://www.adb.org/sites/default/files/publication/27722/ado2000.pdf" https://www.adb.org/sites/default/files/publication/27722/ado2000.pdf

World Bank (2014). Cameroon Economic Update: Revisiting the Sources of Growth; the Quality of Basic Education, January, Issue N. 7 pp34.

World Bank (2020). Africa Program for Fisheries. https://www.worldbank.org/en/programs/africa-program-for-fisheries