

## **ANALYSIS OF FINANCIAL STRUCTURE OF COOPERATIVE ORGANIZATION IN NIGERIA**

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### **Abstract**

*This study analysed financial structure of workers cooperatives using University based cooperatives as a case study. The paper employed secondary data from annual reports and accounts of the cooperatives between 2012 and 2018 accounting years and uses descriptive statistics to analysis the data. The financing structure of the cooperatives consists of share capital, reserves and savings. The assets structure of the cooperative consist of outstanding loans to member-patrons, cash and stock of trading items. Further analysis shows that the trend of share capital as a component of financing structure was increasing more consistently over the period.*

**Keywords:** *Finance, workers cooperative, assets, university, Nigeria.*

**JEL Classification:** *G32, J54, P13*

### **1. Introduction**

Cooperatives, including enterprises owned by workers, could play significant roles in repositioning an economic system as a whole, in addition to generating another form of social governance. This, in addition to the rising ideas of democracy in various business establishments and organizations, have brought about renewed interest in cooperativism in various academic and community circles (Alperowitz, 2013). Among several factors to which economic and social needs of individuals could be met, cooperation among workers is vital. However, skepticism remains on the capabilities of workers in organized institutions to realistically own and manage successful business. Relative to all existing types of cooperatives, workers-owned cooperatives appear to attract higher level of involvement from employees (Perotin, 2015). In such arrangement, many employees are able to contribute capital and labour to the development of their cooperative. In workers' cooperative, two main forms of participation exists: involvement in decision-making and policy formulation, and shared equity which includes dividends, and individual financial account (Cheney et al., 2014).

In recent years, and following declining fortunes from direct employment into formal institutions, increasing number of cooperative groups are changing their business orientation from Rochdalian and more conservative approach to conventional and profit driven self-help organizations (Hendrikse & Veerman, 2001). In this circumstance, financial structure of such cooperatives is modelled to mirror investors owned firms while retaining specificity of cooperative organization. Expectedly, changes in business and financial orientation of a cooperative group could results in increasing demand for both short term and long term needs of members-patrons of cooperative firm. But, undue financial pressure may results most especially in the presence of risks that are known to be associated with conventional business orientation. The question is whether workers cooperative with primary obligations to their employers in an organized institution could put up additional capabilities to meet both the short and long term obligations to members who are also the patrons. Hence, the need for understanding financial structure of cooperatives set up and managed by workers using higher institution of learning as a case study. Despite the view held by a number of scholars (Anheier & Salamon, 2006; Levi & Davies, 2008) that cooperatives societies belong to nonprofits organization, largely due to its principles and market operations, its contribution to social economy cannot be ignored (Defourny and Nyssens, 2006).

In the financial literature, the overall impact of firms' financial leverage on the cost of capital to business enterprise is contentious. But, it is traditionally expected that a business enterprise can lower the cost of capital by substituting debt for equity. Consequently, optimum financial structure that reduces cost of capital is expected. While the importance of financial structure of conventional firms has been widely debated since the research efforts of Myers (1984), little attention has been paid to the relevance of financial structure to cooperative business enterprise. For a healthy business enterprise, an optimum financial structure is required to provide direction to decisions on asset financing, cost and risks.

In recent times, limited studies have analysed financial structure of cooperative firms. The work of Kassali, Adejobi and Okparaocha (2013) was narrowed to agricultural cooperatives with overall interest in financial performance. Although their findings indicates negative effect of financial measures such as loan and cooperative size on performance, understanding the financial structure of cooperatives was suggested as crucial to projecting cooperative financial performance. Earlier, Hendrikse and Veerman (2001) tested applicability of transaction costs theory to financial structure of marketing cooperatives. They found less favourable terms for marketing cooperatives compared to conventional firms with respect to outside equity.

In this study, we examine the trends in financial structure of cooperatives organized and managed by university workers. We also analysed the capabilities of the cooperatives to meet short term and long term obligations to the members using university based cooperatives as a case study. It is expected that the outcome would lay a clear premise for understanding the nature of financial strength of cooperatives organized by labour. Also, the findings should provide insights into financial policy formulation for future financial strategies of cooperatives.

The rest of the paper is arranged in sections; section two covers review of literature on cooperatives in general and workers cooperatives specifically. It reviews theoretical underpinning of financial structure and the linkage between financial structure and workers cooperatives. Section three presents the methodology including the data for the study. These two sections are followed by results, discussion and conclusions.

## 2. Literature Review

Prior to the internationally acclaimed definition of cooperatives by ICA (1995), a number of scholars have defined and conceptualized cooperatives in several ways. Although the principles and practices of cooperatives are widely acknowledged, modern economic changes suggest that the appropriate definition of cooperatives could better be understood if the structure and types of cooperatives are put into perspective. For instance, ICA (1995) put the definition of cooperatives as "an autonomous association of people united voluntarily to meet their common economic, social and cultural needs as well as aspirations through a jointly-owned and democratically controlled enterprise". The definition of ICA puts up a number of issues that are specific; it implies cooperatives are only formed by people who have common challenges and needs. Also, the management structure of workers cooperatives especially in government controlled institutions does not make it absolutely independent of discreet monitoring.

Nonetheless, the implied definition of cooperatives as economic enterprises (Galor, 2003) initiated and owned by members provides the basic linkage to financial structure assessment. To this end, Valetinov and Iliopoulos (2013) argued for understanding of cooperatives from three economic perspectives. The perspectives are drawn from early proposition of Nourse (1922) and Emelianoff (1942). They viewed cooperative as "a form of vertical integration to serve the members, a distinct firm from members' individual business and a coalition of people". The ensuing argument emanated from the principle of cooperative-operation at cost- which implies that a cooperative firm neither incurs profit nor loss. Based on this, cooperative could be modelled as a business unit from multi business entities thereby establishing rules and decisions for cooperative pricing and output (Cook, 1995).

Economic realities underlined the motives for cooperative formation to achieve desired financial leverage. Some of these include need for risk reduction (Iliopoulos, 2009), need to manage transaction cost in business (Hansmann, 1996; Valetinov, 2007), need for improved marketing margins (Cook & Iliopoulos, 1999), opportunities offered by scale economies or increased power of bargaining (Ortmann & King, 2007) and avoidance of market power that is usually wielded by contractual partners in the business chain (Valetinov & Iliopoulos, 2013).

A number of theoretical perspectives have been put into the analysis of financial structure of firms. Mackay & Phillips (2005) base their work on competitive equilibrium models and found that financial structure decisions are

not independent of risk and technology choices of business enterprise. In addition, the three interdependent decisions are dependent on the positions of the firm in its industry. The implication of the finding is that financial structure of workers cooperatives can only be assessed through identification of their position in the broad cooperative entities-producers and service cooperatives. Sexton and Iskow (1993) argued that ratios as financial measures are devoid of sound economic theories and on the basis that cooperatives are only a vertically and jointly integrated entity. Hence, such entity may not be suitable for the peculiarities of financial ratio analysis. But, the argument does not take into consideration an important dimension of cooperatives which emphasizes management of cooperative business entity. Even in a case where such entity will be managed by elected governance members or board in replica to investors owned firms.

Also, while cooperative is truly a vertical entity of members, suitable financial measures for cooperatives may actually depend on the type and nature of the cooperatives. In addition, some cooperatives in modern times do exhibit similar behaviour to investors owned firm (Soboh et al., 2009). Consequently, financial ratios are applicable to cooperatives as business enterprise. Mateos-Ronco and Guzman-Asuncion (2018) considered financial decisions of agricultural cooperatives and used financial ratios to determine long term financial decisions of Agricultural cooperative firms. Decisions of the sampled were closer to pecking order theory with equity capital that pushes them to debt to fund future growth. The review of extant literature leave a gap that suggest the need for detail analysis of financial structure of cooperative organization.

### 3. Methodology

We employed descriptive survey design for the study. With specific focus on university based cooperative which is owned and managed by academic staff of Olabisi Onabanjo University, Ago-Iwoye, Ogun State, Nigeria. In the history of workers cooperatives in Nigeria, our case study is one of the foremost and functional workers' cooperatives in Nigeria. The sampled cooperative firm was established in 2002 as Olabisi Onabanjo University Academic Staff (Ago-Iwoye) Co-operative Multipurpose Society Limited. It attained cooperative legal status in 2004. It currently has five hundred and ten (510) members comprising 386 male and 124 female staff-members as at December, 2018 (Table 1). Although the cooperative became legally functional in 2004, the financial record only became standardized from the year 2012. Hence, data for the study were sourced from the annual accounts and statistics of the sample cooperative firm from that period. The data covers the period of seven (7) years between 2012/13 and 2018 cooperative business years. The data were secondary in nature. Information gathered covers data on current assets, current liabilities, fixed and total assets, as well as the cooperatvive investment over the sampled period. The data collected measure the cooperative capacity to meet short term obligations of the member-patrons. Descriptive statistics were largely employed to analyze the data.

### 4. Results and Discussion

#### 4.1. Characteristics of the Sampled Cooperative: Membership

The sample cooperative has skewed distribution across gender over the study period. The number of male membership is far more than female. For instance, there is a record of 284 male to 85 female in the period between 2013 and 2014 accounting year. This represented a difference of 199 in favour of male. The result perhaps suggests gender imbalance in the cooperative's industry sector in the country. It also depicts gender imbalance in the employment of the university housing the cooperative and perhaps the university education sector in the industry. The data reflects the same observation for the succeeding years as there are more male patrons of workers cooperative than female. The data show high possibility of female exclusion from employment bracket in the study area. The period also witnessed decline in membership from 386 to 369, representing a decline by 17. A possible reason could be work mobility of members from the location of the cooperative settings to another work place or non attractiveness of cooperative ideals to the members. Although there is an increase in membership in the succeeding years by 50 cooperators, the data shows an increase at a decreasing rate of additional members to the workers cooperative as shown in Table 1.

**Table 1: Description of sampled cooperative firm**

<b>Period (Year)</b>	<b>Membership (% change)</b>	<b>Male</b>	<b>Female</b>
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2012	386	NC	NC*
2013	369 (-17)	284	85
2014	419 (50)	324	95
2015	463 (44)	353	110
2016	479 (16)	365	114
2017	492 (13)	376	116
2018	510 (18)	386	124

Source: Annual reports of the sampled cooperative firm (2013-2019)

\*NC- Not categorized

#### 4.2. Financial structure of workers cooperatives

The financial structure of the sampled workers cooperative is presented in Table 2. The current assets progressively increased over the period to reach N798.724 million (\$2.219 million) in the year 2018. The total assets of the cooperative firm at the end of the study period (2018) stood at N811.860 million (\$2.255 million). However, the investment flow is not impressive as constant values were recorded from the period 2015 to 2018. Although the current liabilities increases over the period, the rate of increase is minimal. The estimates of percentage change in the financial series is presented in Table 3. The current assets of the worker cooperatives show over 100% increase (117.189%) over the sample period (2012-2018). However, the fixed assets of the cooperative increased by 30.488% over the period. The overall assets of the sampled workers cooperative increased by 117.408% over the period under study. The liabilities has reduced per cent value of (-78.532%) (Table 3).

Table 2: Balance sheet of workers cooperatives (N 360 = \$1)\*

	Year ended						
	2012	2013	2014	2015	2016	2017	2018
<b>Balance sheet -</b>	<b>Asset (N million)</b>						
Current asset	367.755 (\$1.022)	394.196 (\$1.0949)	464.807 (\$1.2911)	522.361 (\$1.451)	573.018 (\$1.5917)	689.949 (\$1.917)	798.724 (\$2.219)
Fixed asset	5.671 (\$0.016)	6.184 (\$0.017)	6.589 (\$0.018)	6.755 (\$0.018)	6.986 (\$0.019)	7.258 (\$0.020)	7.400 (\$0.021)
Investment	5.738 (\$0.016)	5.737 (\$0.016)	86.748 (\$0.241)	5.737 (\$0.016)	5.737 (\$0.016)	5.737 (\$0.016)	86.748 (\$0.241)
<b>Total</b>	373.427	400.380	558.145	534.853	585.741	702.943	811.861
Current liabilities (N)	373.426 (\$1.037)	400.380 (\$1.112)	459.413 (\$1.276)	73.0723 (\$0.203)	76.247 (\$0.212)	77.469 (\$0.212)	80.168 (\$0.223)

Source: Annual reports and Accounts of the cooperative

\* Values are in millions

Table 3: Changes in the balance sheet (2012-2018) (N 360 = \$1)

Variables	2018 N(\$ millions)	2012 N(\$ millions)	Difference N(\$ millions)	% change
	<b>Asset (N)</b>			
Current asset	798.724 (\$2.219)	367.755 (\$1.022)	430.969 (\$1.197)	117.189
Fixed asset	7.400	5.671	1.729	30.488

	(\$0.021)	(\$0.016)	(\$0.005)	
<b>Total</b>	811.861 (\$2.255)	373.427 (\$1.037)	438.434 (\$1.218)	117.408
<b>Current liabilities (N)</b>	80.168 (\$0.223)	373.427 (\$1.037)	-293.259 (\$-0.815)	-78.532

Source: Computed from the Cooperative Annual Reports and Accounts

### 4.3. Description of financial structure of the sample cooperative

The descriptive statistics of the balance sheet is presented in Table 4. The average current assets of the sample workers cooperative is 1.51 in million US dollars over the sampled period. This represents cash, goods or items having a short life which are the most important current assets of the cooperative. The value of the current assets is more than fixed assets which stood at 0.02 million dollars. The higher value of the current asset suggests that the workers cooperative give more priority to liquidity. The cooperative only shows record for current liabilities and the value stood at \$0.61 millions over the sampled period. Since the value of the current assets is greater than the current liabilities, it could be inferred that the cooperatives lay more emphasis on staying liquidworkers are financially prudent in the management of their cooperative. This is an indication of future success and sustainability of the workers cooperative.

However, the investment flow is low at 0.04 million dollars over the sample period. This suggests that opportunity to grow the cooperative and generate desirable employment potential may be limited. The standard deviation of all the variables indicates stability of the workers cooperative effort over the years. With the exception of investment variable that has higher standard deviation than its mean values, all other values of the deviation are expectedly lower than that of the mean. Over the period under study, investment value of the cooperative is the lowest relative to other balance sheet variables. The minimum fixed asset generated is 0.02 million dollars. Comparative of current assets to current liabilities show that the minimum value of the current assets is 1.02 million US dollars while that of current liabilities is 0.20 million US dollars. The higher value of the current assets relative to current liabilities suggests that the sampled workers cooperative has higher working capital, implying higher liquidity for the business albeit in the short run. The maximum value is observed with current assets which stood at 2.22 in million US dollars. The maximum for the fixed assets over the period is \$0.02 million US dollars which also equal the minimum value observed for the same period. The maximum value of investment is 0.24 million US dollars over the period.

**Table 4: Description of financial structure of the sample cooperative (360N = 1\$) ('million)**

Variable	Mean*	Std. Dev.	Min	Max
Current asset	₦ 544.40 (\$1.51)	₦ 156.67 (\$0.44)	₦367.76 (\$1.021)	₦798.72 (\$ 2.22)
Fixed asset	₦ 6.69 (\$0.02)	₦ 0.61 (\$0.00)	₦ 5.67 (\$0.02)	₦ 7.40 (\$0.02)
Total asset	₦ 566.76 (\$1.57)	₦155.53 (\$0.43)	₦ 373.43 (\$1.04)	₦ 811.86(\$2.26)
Investment	₦ 15.67 (\$0.04)	₦ 31.46 (\$0.09)	₦ 0 (\$0)	₦ 86.75 (\$0.24)
Current liabilities	₦ 220.03 (\$0.61)	₦ 180.52 (\$0.50)	₦ 73.07 (\$0.20)	₦ 459.41 (\$1.28)

\*1\$ = N 360

Source: Data Analysis

### 4.4. Breakdown of Financing and Asset Structure of Cooperatives

#### 4.4.1. Financing Structure of Cooperatives

Results in Table 5 shows the financing structure of the cooperatives. The financing of the cooperatives rests on capital contributions from members in form of share capital, reserves and savings. The overview of capital contribution values indicates that the share capital of members generally increased over the period under study suggesting an increase in members of the university community showing preference for financial transaction with cooperative organization. The capital contribution grew from \$0.258 millions dollars in 2012 to a high value of

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\$308.258 millions dollars in 2018. This suggests high responsiveness of university members to capital contributions in the cooperatives. Similarly, the reserves also increased over the period from \$0.106 in 2012 to \$0.306 in 2018. In the cooperative structure, the reserves are meant to fund fixed assets need of cooperative organizations. Savings as a difference between cooperative earnings and expenses also increased from \$0.179 to \$0.577 over the sampled period. The percentage changes in the financing structure is presented in Table 6 and illustrated in Figure 1 to 3. With the exception of years 2014 and 2015, the percentage changes in capital contribution of members to cooperative could be described as relatively consistent. Aside the observed exceptions, the changes range from maximum of 22.98% to minimum of 16.21% over the sampled period. Although, higher percentage changes is observed fro cooperative reserves as form of financing, the successive changes in the value is also relatively consistent. While the percentage changes in the values of savings could be said to be irregular, the trend of changes is relatively consistent.

**Table 5: Financing Structure of Cooperatives (N 360 = \$1) - N(\$) millions\***

Year	2012	2013	2014	2015	2016	2017	2018
Capital contribution	92.740	112.054	14.089	178.401	207.319	254.96	308.18
	(\$0.258)	(\$0.311)	(\$0.039)	(\$0.496)	(\$0.576)	(\$0.708)	(\$308.18)
Reserves	38.072	47.34	55.066	69.60	834.519	90.37	109.99
	(\$0.106)	(\$0.131)	(\$0.153)	(\$0.193)	(\$2.318)	(\$0.251)	(\$0.306)
Savings	64.59	77.11	96.33	121.34	140.62	172.38	207.86
	(\$0.179)	(\$0.214)	(\$0.268)	(\$0.337)	(\$0.391)	(\$0.478)	(\$0.577)
Grand total	195.406	236.502	165.489	369.347	1182.461	517.712	626.037
	(\$0.543)	(\$0.657)	(\$0.459)	(\$1.026)	(\$3.285)	(\$1.438)	(\$1.739)

Source: Annual report and accounting of the cooperative

**Table 6: Changes in Financing Structure (2012-2018)**

	2013	2014	2015	2016	2017	2018
	%	%	%	%	%	%
Capital contribution	20.83	-87.43	1166.28	16.21	22.98	20.87
Reserves	124.33	116.33	126.39	119.89	108.29	121.71
Savings	119.38	124.93	125.962	115.89	122.59	120.58

Source: Computed from Data Extracted from Annual Reports of the Cooperatives

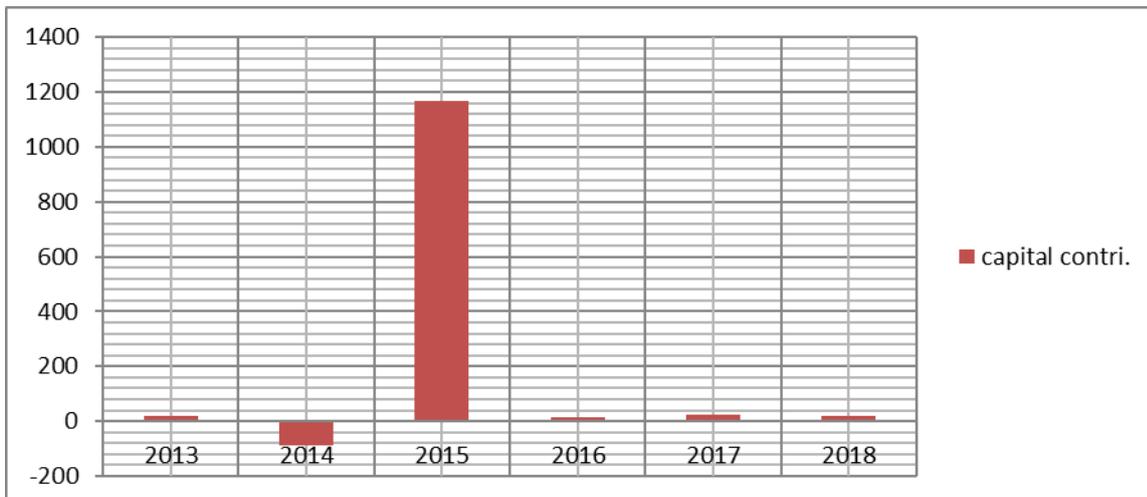


Fig. 1: % changes in capital contributions of members to the cooperative

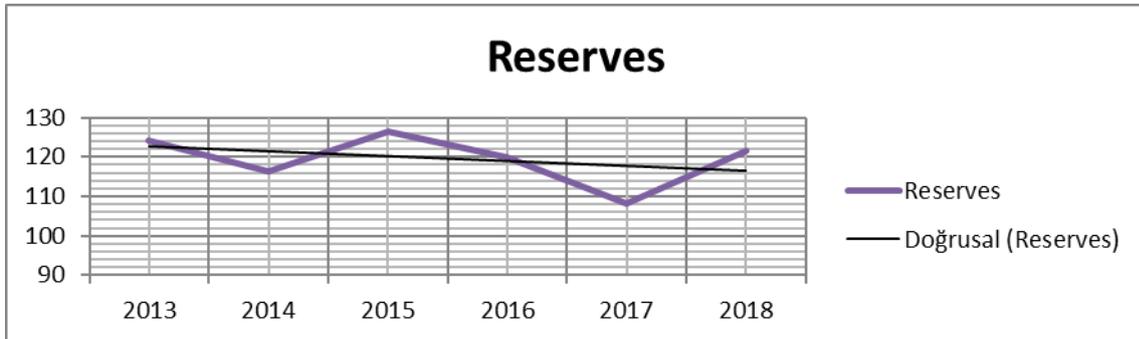


Fig. 2: Trend of Financial Reserves of the cooperative (2012-2018)

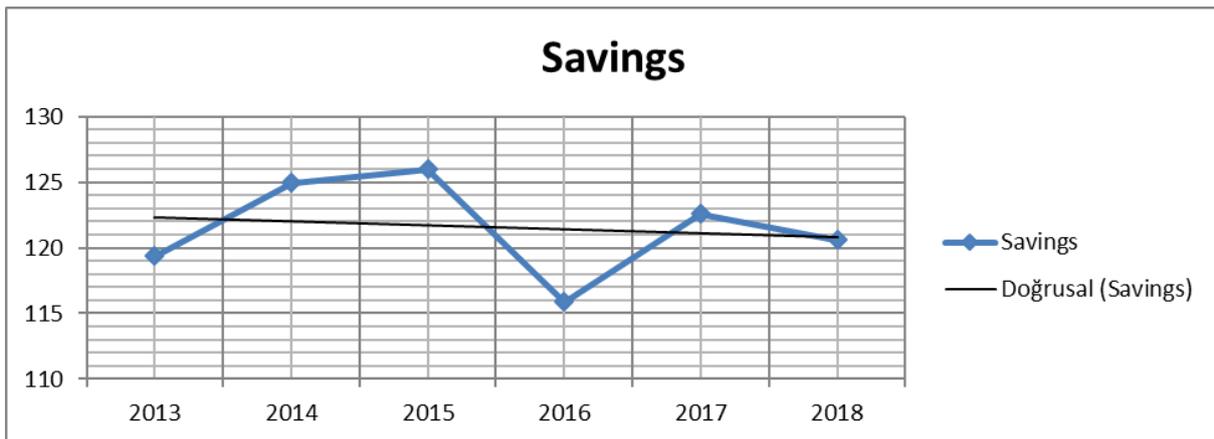


Fig. 3: Trend of savings of the cooperative (2012-2018)

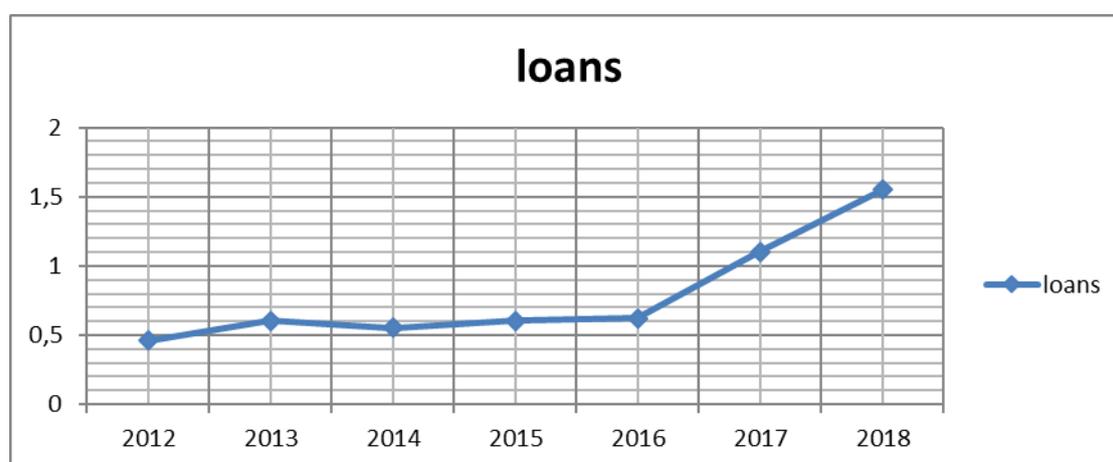
#### 4.4.2. Assets Structure of Cooperatives

The breakdown of assets structure of the cooperative organization is presented in Table 7. The assets structure are decomposed into fixed assets and current assets. The current assets are by loans, investment, cash and stock of trading items as contained in the annual reports and accounts of the cooperatives. The outstanding loans of the cooperative was increasing steadily up till 2016 with the exception of 2014 (Figure 4). The outstanding loan reduces from \$0.603 in 2013 to \$0.553 in 2014 representing about 8.4% reduction in outstanding loan to members (Table 8). From 2016, there was an increase in the value of loan up to 76%. This shows an increase in inclination towards loan access through cooperative organizations. The cash representing liquidity of the firms to meet urgent financial needs was generally decreasing over the period. The percentage changes in stock of trading items over the period was found to be fluctuating.

**Table 7: Assets structure of cooperative (360N = 1\$)\* millions**

	2012	2013	2014	2015	2016	2017	2018
<b>Fixed asset</b>	5.671 (\$0.016)	6.184 (\$0.017)	6.589 (\$0.018)	6.755 (\$0.018)	6.986 (\$0.019)	7.258 (\$0.020)	7.400 (\$0.021)
<b>Current assets</b>							
Loans	165.398 (\$0.459)	217.244 (\$0.603)	198.952 (\$0.553)	217.244 (\$0.603)	224.417 (\$0.623)	396.226 (\$1.101)	557.913 (\$1.549)
Investment	5.738 (\$0.016)	5.737 (\$0.016)	86.748 (\$0.241)	5.737 (\$0.016)	5.737 (\$0.016)	5.737 (\$0.016)	86.748 (\$0.241)
Cash	29.016 (\$0.081)	0.4 (\$0.001)	5.944 (\$0.017)	0.594 (\$0.002)	0.589 (\$0.002)	0.005 (\$1.389E-05)	0.005 (\$1.389E-05)
Stock of trading items	167.398 (\$0.465)	388.059 (\$1.078)	173.163 (\$0.481)	298.786 (\$0.829)	342.275 (\$0.951)	466.963 (\$1.297)	154.058 (\$0.428)

Sources: Computed from Annual reports of cooperatives



**Fig. 4: Trend of outstanding loans of cooperatives**

**Table 8: Changes in Assets structure of cooperative**

	2013	2014	2015	2016	2017	2018
	%	%	%	%	%	%
<b>Fixed asset</b>	9.05	6.55	2.52	3.42	3.89	1.96
<b>Current assets</b>						
Loans	31.353	-8.420	9.194	3.302	76.558	40.807
Investment	-0.010	1412.079	-93.387	0	0	1412.079
Cash	-98.621	1386	-90.007	-0.842	-99.151	0
Stock of trading items	131.818	-55.377	72.546	14.555	36.429	-67.009

<b>Total% change (current asset)</b>	7.249	17.913	12.382	9.698	20.406	15.766
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Source: Computed from Data Extracted from Annual Reports of the Cooperatives

## 5. Discussions and Conclusions

There is an increasing drive for cooperative formation and participation across the world. However, in emerging countries like Nigeria, cooperative involvement and establishment is rampant among formally employed individuals who strive to take advantage of both economic and social needs expected from cooperative membership that is usually not attainable from the gains of employment in the country. Among the most coveted by people is institutional based cooperative group. To this end, we chose university based cooperative as a case study. The analysis of the financial structure of the cooperative shows interesting outcome. First, the working capital of the workers cooperative and hence its liquidity status, as dictated by the ratio of its current assets to current liabilities, is relatively impressive given the higher value of the former compared to the latter. But, the utilization of such advantage in investment is unimpressively low. After over 16 years of existence of such cooperative, it is expected that one of the cardinal values of cooperative –to generate employment will be a centre focus not neglecting the need to raise the economic needs of the patrons. The appraisal of the balance sheet leads to the understanding that workers' cooperative, though desired by many workers in Nigeria, is yet to reach its potential. A constant value of investment show either lack of investment education on the part of cooperatives or low capacity to take advantage of cooperatives ideals to contribute to community development through increasing investment drive for the cooperative firms.

The study found that a number of individuals are increasingly participating in cooperative with financial commitment as reflected in the balance sheet. But, one of the critical additional concern is low involvement of women in the cooperative participation. Overall financial benefit is desirable through elimination of gender exclusion in the running of cooperative business activities. The study points to financial exclusion of women which perhaps could lead to cross fertilization of ideas for better investment which is obviously lacking in the financial outcome of the sampled workers cooperative.

The findings of the study leads to suggestion that the workers' cooperative has poor investment drive. Expectedly, potential for investments should be higher given higher working capital presented in the balance sheet. Evidence of poor investment presented show the need for further investigation on the reasons for poor investment drive of workers cooperative.

In arriving at appropriate understanding of financial structure of cooperatives, two components were identified and analysed. These are the financing structure of the cooperative which comprises of share capital, reserves and savings. These represent the sources of funds for the workers cooperative. Capital contribution through share capital was found to be a crucial source of financing for the cooperatives. The assets structure are categorized into two where current assets were found to comprise of outstanding loans to member-patrons and which was expected to be repaid at flexible exchange rate. Other components of current assets include investment, cash and stock of trading items. Under this financial item, outstanding loan was found to be more important as it appears that members participate in cooperative based on expectation of flexible loans. The cash representing liquidity of the firms to meet urgent financial needs was generally decreasing over the period. The percentage changes in stock of trading items over the period was found to be fluctuating. The overall assessment of the financial structure show that workers manage the finance of their cooperative based on stable financing sources and distribution of same as loans to member-patrons.

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