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## Demutualization, Member Transactions and Financial Performance of Co-operatives in Kenya

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### Abstract

*As a reaction to competitive pressures, co-operative enterprises have relaxed their residual claim restrictions resulting in the emergence of innovative organizational forms. Cooperatives have adopted the hybrid model of demutualization to adapt to these pressures. Demutualization alters member income rights, which stem from member transactions, resulting in re-assignment of the residual claim on income generated between stakeholders. This has an implication on firm performance and organization structure. A question that arises is whether co-operative ownership structure is a decisive determinant of financial performance. We therefore investigate the influence of demutualization on the relationship between member transactions and financial performance. Using the time-series, cross-section design, we analyzed data from holding co-operatives in Kenya spanning 20 years (1998-2017). Our findings indicate there is a negative and significant relationship between member transactions and financial performance of co-operatives in Kenya and that demutualization had a positive but not significant effect on this relationship. We conclude that as far as these organizations continue to pursue a double bottom line, soon there may be no relation between member reward and member transactions as envisioned in the co-operative finance principle. Recommendations include the establishment of a secondary market for co-operative securities to enable inter-co-operative share trade that adheres to the international co-operative identity principles.*

**Keywords:** *Demutualization, member transactions, financial performance, co-operatives, transaction cost*

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### INTRODUCTION

Innovations in co-operative organizational forms have emerged in the past few decades (Hendrikse & Bijman, 2002; Bekkum & Bijman, 2006). As a reaction to competitive pressures, co-operative enterprises have relaxed residual claimant restrictions (Chaddad & Cook, 2004). Cooperatives are often limited in their competitiveness in relation to human and financial capital because of their member control and member patronage features as compared to capitalistic

firms (Lin & Ma, 2006; Royer & Smith, 2007; Tribl, 2009). They have thus adopted the hybrid model of demutualization to accommodate some capitalistic features. However, in some circumstances competitive pressures have resulted in full conversion into Investor Owned Firms (IOFs). Demutualization is defined as an alternation in ownership structure of user owned and user controlled enterprises from a mutual status to a for-profit, proprietary organization (Bijman, Iliopoulos, Poppe, Gijssels, & Gijssels, 2009).

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Hagedorn, Hanisch, Hendrikse, Kuhl, Ollila, Pyykkonen & Sangen, 2012). The main motivation for demutualization is attraction of risk capital. Members who are also patrons, own and control the co-operative enterprise. Unlike, investor owned firms where few investors have authority, co-operatives in their nature have member reward related to member transactions/patronage and decision making involves a high level of member participation (Beugelsdijk & Schaik, 2005). The choice of organization structure is dependent on member perceptions. Members will opt for the structure that gives them the highest value for their patronization (Bijman *et al.*, 2012).

Co-operatives conventionally exist as marketing channels, substitutes for market failures and off setters of power back to members (Hendrikse & Bijman, 2002). Through co-operative market access, members gain in terms of a lower transactional cost than would not have been possible if they chose to access the market independently (Staatz, 1987). Modern co-operatives are also affected by transaction cost factors (Valentinov, 2007).

A new organization form is sort through demutualization so as to lower transaction costs (Hansmann, 1998). This new organization structure should retain the co-operative ideology but also allow for non-member equity capital (Bekkum & Bijman, 2006). Gaining from investor growth, capital is a major motivation for pulling out from the convectional co-operative structure (Chaddad & Iliopoulos, 2013). The extreme opposite of the convectional co-operative is demutualization in the form of conversion into an investor owned firm (Chaddad & Cook 2004). The third co-operative identity principle of member economic participation states that members are to receive limited reward if any and it should be in proportion to their transactions with the co-operative (ICA, 2015). However, demutualization

alters this as it results in re-assignment of the residual claim on income generated between stakeholders having an implication on firm performance and organization structure (Kalogeras, Pennings, Dijk & Lans, 2007).

The principle of member economic participation and demutualization therefore appear to be at variance. This paper delves into this dilemma by examining how demutualization affects the relationship between member transactions and financial performance of co-operatives in Kenya. In particular, this paper (1) determines whether a relationship exists between member transactions and financial performance of co-operatives in Kenya, and, (2) provides key insights into the influence of demutualization on this relationship. The paper will contribute to existing knowledge as it has identified a novel research problem that has not been explored before from a Kenyan context. It will also confirm whether demutualization is a matter of ideology or based on proven facts as guided by the findings. Finally, it will also provide research backing for the proposed national co-operative development policy 2019 that sheds light into the new generation co-operative structures.

The paper sought to test the following hypothesis:

**H<sub>0</sub>:** Demutualization has no significant influence on the relationship between member transactions and financial performance of co-operatives in Kenya.

## **LITERATURE REVIEW**

Coase (1937) in the transaction cost theory, argues that firms exist to reduce transactions costs resulting in an increase in transactions and volume of trade consequently raising the financial performance. He points out that corporations exist wherever it is profitable to establish them. They exist where there are costs involved in conducting transactions in the market, the most apparent cost being uncovering what relevant prices are.

The transaction costs theory gives light to the global movement towards demutualization. Today's environment has initiated new changes that have resulted in the introduction of new forms of co-operative organizations. Changes that have emerged in the competitive environment today, led to the spring up of new electronic systems that have allowed for superior price determination, lowering transactions costs involved in serving members and improving transparency in corporate governance under the hybrid structure of co-operatives. Therefore the global move in the direction of demutualization is just but a natural response since the co-operative mutual structure is rendered unattractive and becomes more expensive due to new technological advances and changes in the market environment (Claessens, Djankov & Lang, 2000).

The theory was relevant to the study because it provides for direct understanding of how transaction costs/prices affect the volume member transaction thus having an implication on financial performance. Demutualization reduces transaction cost thus having a positive influence on the relationship between member transactions and financial performance. Emphasizing what has already been stated by Coase (1937) as the reason for the existence of firms should be to reduce transaction costs and thereby increase economic value creation, increasing volume of member transactions and consequentially improving financial performance.

Members who are recipients of high-quality member transactions and who feel that their voice is heard in the influence of cooperative policy are less likely to support demutualization (Hazen, 2004). When co-operative management encourage members to actively participate and transact with their cooperative, the chances of having success are higher than in other organizational structures (Birchall, 2002). Council for

enterprises, employers and social economy groups CEGES (1997) through a study conducted in France reported that financial co-operatives that did not demutualize served members at a lower transaction cost than those that demutualized. From these studies we can conclude that high member participation can be used as a means of avoiding demutualization and achieving financial success.

Pascucci, Gardebroek and Dries (2012) suggested that member dependence on the co-operative increases with increase in their total deposits. Additionally, members who invest more were more devoted to transacting with the co-operative. Therefore, dependency of members on cooperatives increased in relation to the size of their total assets. Between price and transaction costs, the perceived significant factor in member satisfaction was transaction cost. The higher the transaction cost the lower the member transactions. We applied a similar mode of measurement for member transactions in the paper and compared findings.

Alho (2015) studied the impact of demutualization on transaction cost benefits in Finland. This was through a survey of 682 agricultural co-operatives and analysis incorporated a multivariate ordered probability model. Findings indicated that demutualization led to complex co-operative structures that were highly market oriented than member transaction oriented. This resulted in capital linked member benefits being more superior to the traditional transaction/patronage linked member benefits. We used demutualization as a dummy variable to explore its pre and post effects on member transactions and financial performance

Pyykkonen and Ollila (2012) compared dairy and meat co-operatives in Finland in terms organization structure and impact on member patronization. Dairy co-operatives represented the tradition organization that

conforms to the co-operatives principles of unallocated capital and equal voting rights. The large meat cooperatives had demutualized hybrid structures that were vertically integrated and incorporated the separation of ownership and control rights from patronage. Demutualization resulted in members of the hybrid meat co-operative valuing capital benefits and transaction price more highly when compared with traditional dairy co-operative members. This study showed that demutualization made members more sensitive to the transaction costs which had a negative impact on the volume of member transactions and ultimately financial performance.

Ciliberti, Frascarelli and Martino (2018) looked at what determined member participation in Italy through a transaction cost theory. This was through the Farm Accountancy Data Network (FADN) methodology and application of probability regression models. The model was used to analyze variables relating to member transaction asset specificity in terms of organization structure, size, human asset and specialization. Uncertainty was also established by focusing in market volatility, context and policy. A key conclusion transaction asset specificity was the main determinant of member participation and specifically aspects relating to organization structure and specific characteristics of the product. A change in organization structure can be in the form of demutualization and we explored how such a change affected member transactions.

Liang, Huang, Lu, and Wang (2015) sought to classify and define capital aspect and examine its influence on member participation and also on economic performance in China. This was through examining a sample of 147 farmer co-operatives and via the application of a statistical model. The findings indicated that certain aspects of capital have a positive

relationship with member participation and all the capital aspects have a positive influence on the co-operative's economic performance. The findings of a positive relationship between capital and member transaction is a departure from other empirical literature including for Alho (2015).

## **RESEARCH METHODOLOGY**

The target population of the study comprised of all holding co-operatives in Kenya between 1998 and 2017. According to the Ministry of Industry, Trade and-operatives (2017) the existing holding co-operatives are Cooperative Insurance Services Ltd (CIS) and Co-op Holding Co-operative Society Ltd, which own Co-operative Insurance Company Ltd and Co-operative Bank of Kenya Ltd respectively. As such a census sampling technique was employed since both holding co-operatives were studied for the twenty-year period mentioned above. A Time Series Cross Sectional research design was applied. Secondary data which included Net income after tax (NIAT), Total loans, Total premiums and Year of demutualization was collected from financial statements. Data on Member Loans and Member premiums was collected from the annual shareholder investor briefing reports combined with extrapolation where co-operative division managers with more than fifteen years of experience were interviewed. Financial statements for Co-operative Bank were available for 19 years from 1999 to 2017 and for Co-operative Insurance Company they were available for 11 years from 2007 to 2017. The data available was adequate since it covered more than 5 year's pre and post demutualization for both organizations. Therefore the panel data was unbalanced nature however this did not have any effect on the methodology because balanced panels methods of data analysis are vigorous enough to be applied in unbalanced panels (Baltagi, 2013; Gujarati, 2003).

To investigate the influence of demutualization on the relationship between member transactions and financial performance, we use model 1:

$$y_{it} = \beta_0 + \beta_1 X_{1,it} + \varepsilon \dots \dots \dots (1)$$

Member transactions were measured in terms proportion of member loans/premiums as applied by Pascucci, Gardebroek and Dries (2012).

On the other hand to investigate the influence of demutualization on the relationship between member transactions and financial performance, we use model 2:

$$y_{it} = \beta_0 + \beta_1 X_{1,it} + \alpha_2 D_{2i} + \varepsilon \dots \dots \dots (2)$$

Model terms are defined as follows:

*Y<sub>it</sub>* = The dependent variable which was financial performance of co-operative organization “i” at time “t” that was measured by Return on Equity (ROE). **β<sub>0</sub>** = Constant term. **β<sub>k</sub>** = Coefficient for member transactions. **α<sub>k</sub>** = Coefficient for dummy variables. **D<sub>k</sub>** = Dummy variable which is Demutualization. Assuming two firms in should take 1 for periods after demutualization and 0 for periods before demutualization. **X<sub>1,it</sub>** = Member transactions was measured in terms proportion of member loans/premiums of co-operative organization “i” at time “t”. **ε** = A random error term and takes care of other factors that affect financial performance which are not defined in the model.

**DATA ANALYSIS AND RESULTS**

The mean financial performance (ROE) of 71.77 per cent is an indication that the co-operatives were doing well in relation to

surplus however their standard deviations of 83.48 percent was quite high and meant that the profit making capability was divergent from each other over the years. ROE varied from -23.67 to 259.3 percent an indication that over the years the co-operatives managed to conquer their financial difficulties so as to become sustainable and quite profitable (Table 1).

Member transactions (MT) had a minor standard deviation and mean of 11.66 and 28.27 per cent respectively. It varied between 8.9 to 59.6 percent over the years. It is worth noting that over the years, member transactions have a declining trend. The mean was quite low an indication that members were not committed to transacting with their co-operatives possibly. The deviation of member transactions is also quite low meaning it did not vary too much over the years. The minimum value of 8.9 per cent is an indication that members may not be truly patronizing their co-operative. There seems to be a different relationship between member transactions and financial performance where we are having circumstances where financial performance was as high as 259.2 per cent while the highest member transactions were at 59.6 per cent this is a signal that the principle of member economic participation is not actually practiced as one would expect financial performance to be behaving in a similar fashion. Especially since members are perceived to be the backbone of any co-operative and if they are not transacting more yet this has no significant effect on financial performance then what does this mean?

**Table 1:** Summary Descriptive Statistics for Secondary Dataset

Variable	Obs	Mean	Std. Dev.	Min	Max
ROE	28	.7177317	.8348535	-.236725	2.592634
MT	28	.2827143	.1165869	.089	.596

We conducted a structural break test around the period of demutualization. It had a null hypothesis that there was no structural break. Study findings of the chow test indicated an F statistic of 3.31 which had *p* value of 0.0572 which was greater than 5 percent significance level. Thus, the null hypothesis was not rejected by the study at 5 per cent level of significance however at 10 per cent level of significance the null would have been rejected. Therefore, the study concluded there was inadequate evidence to support the argument that a structural break existed in the respective periods when demutualization happened for both holding co-operatives.

This Hausman test was applied so as to aid the study in selection of the appropriate model to interpret. The null hypothesis was that random effects was the preferred model. The findings indicated a chi square statistic of 3.41 with 0.3322 as the *p* value which was more than 5% significance level, thus the study did not reject the null hypothesis concluding that the random effects model was more appropriate compared to the fixed effects model. Therefore, the results of the random effects model were interpreted.

We first established whether a relationship existed between member transactions and financial performance. The results are displayed in Table 2. The random effects model run of the relationship between

member transactions (MT) and financial performance (ROE) shows a negative significant relationship of -5.349 with 0.000 *p* value. This indicates a very strong inverse relationship exists between the two variables. The autonomous financial performance was 2.230 with a *p* value of 0.000; therefore financial performance independent of the factors in question was positive and significant. Wald statistic of 32.82 was more than the critical value significance level of five percent. This means that member transactions were significant in explaining the disparities in financial performance. Rho which was the interclass correlation was 0% suggesting that 0% of the variations in ROE were due to difference across holding co-operatives. The between and within R-square were 100% and 84.52 % respectively. Therefore, 84.52% of the return on equity variations arose from difference within individual holding co-operatives and 100% of the ROE variations arose from difference between the holding co-operatives. Overall R<sup>2</sup> was 55.80%, indicating that the model variables account for around 55.80% change in ROE which was the dependent variable, while around 44.20 percent change may be an outcome variables not considered by this model. Secondly, the study sought to determine the influence of demutualization on this relationship.

**Table 2:** Relationship between Member Transactions and Financial Performance

Dependent variable	ROE	
Explanatory Variable	Coefficient	
MT	-5.349***	
Constant	2.230***	
Post Estimation Diagnostics		
R square	Within	0.8452
	Between	1.0000
	Overall	0.5580
	Rho	0
Wald chi2 (3)	32.82***	
sigma_e	0.2877	
KEY		
p-value <0.01	***	
P-value <0.05	**	
P-value <0.1	*	
The functional model for these findings was: $ROE_{it} = 2.230 - 5.349MT + 0.2877$		

**Table 3:** Influence of Demutualization on the Relationship between Member Transactions and Financial Performance

Dependent variable		ROE
Explanatory Variable		Coefficient
MT		-4.673***
FirmDummy		0.2519
Constant		1.895***
Post Estimation Diagnostics		
R square	Within	0.8467
	Between	1.0000
	Overall	0.5722
	Rho	0
Wald chi2 (3)		33.44***
sigma e		0.2878
KEY		
P-value <0.01		***
P-value <0.05		**
P-value <0.1		*

The functional model 2 for these findings was:  $ROE_{it} = 1.895 - 4.673MT + 0.2519D + 0.287$

Table 3 shows that demutualization had coefficient of 0.2519 with 0.362 as the *p* value. Therefore, the study failed to reject the null hypothesis that demutualization had no significant effect on member transactions and financial performance and concluded that demutualization had a positive but not significant effect on this relationship. Wald statistic of 33.44 is more than the significance level of five percent. Therefore, the member transactions and demutualization were significant in explaining disparities in financial performance in the random effects specification. Rho which was the interclass correlation was 0% suggesting that 0% the variations in ROE were due to differences across holding co-operatives. The between and within R-square were 100% and 84.67% respectively. Therefore, 84.67% of the return on equity variations arose from differences within individual holding co-operatives and 100% of the ROE variations arose from differences between the holding co-operatives. Overall R<sup>2</sup> was 57.22%, indicating that the model variables account for around 57.22% change in ROE which was the dependent variable, while around 42.78

percent change may be a result of variables not considered by this model. It is worth noting inclusion of demutualization in the model raises slightly by 1.48% the percentage by which the member transactions account for change in financial performance however we cannot peg the improved member transactions purely to demutualization.

To test for the robustness of our results, we conducted the Mann Whitney U test. The null hypothesis for was that pre and post demutualization member transactions were equal For the Co-operative Bank results, the z statistic was 3.416 with 0.0006 as *p* value which was less than 0.05 critical value therefore the study rejected the null hypothesis. The alternative hypothesis that pre-demutualization member transactions were higher than post demutualization was tested; it had a *p* value of 100% which was greater than the significance level of 95% therefore the study concluded that pre-demutualization member transactions were higher than post demutualization.

Similar results were obtained for the Co-operative Insurance of Company. The z

statistic was -2.745 with 0.0061 as the  $p$  value which was less than 0.05 significance level thus the study rejected the null hypothesis. The alternative hypothesis that pre-demutualization member transactions were higher than post demutualization was tested. A  $p$  value of 0.01% was found which was less than 95% significance level, therefore the study rejected this alternative and concludes that post demutualization the member transactions were higher than pre-demutualization.

### **DISCUSSION OF RESULTS**

The objective of this paper was to determine the influence of demutualization on the relationship between member transactions and financial performance. Two major patterns were found: (i) the relationship between member transactions and financial performance was established to be negative and significant, and (ii) demutualization was found to have a positive but not significant effect on this relationship, thus the study failed to reject the null hypothesis. This meant that even though member transactions had a negative and significant relationship with financial performance demutualization caused the transactions to improve though not significantly. The results were counter intuitive thus robustness test were applied. The chow test confirmed that there was not enough evidence to conclude that a structural break occurred in both organizations during the respective year's demutualization took place the test was done at 5% significance level. Interestingly, at 10% significance level findings indicated that a structural break had occurred. Further, Mann Whitney results indicated that for the case of Co-operative Bank post demutualization member transactions were lower than pre-demutualization while for the case of CIC Group member transactions were higher post demutualization than pre-demutualization.

A review of findings by other researchers sheds more light as to why we have these

counter intuitive results here in Kenya. We can derive from this that demutualization alters the common understanding between members and leadership of the co-operatives enterprise. Members are normally not fully involved in the co-operative affairs and demutualization is viewed as a departure from the common bond which will affect member loyalty and transactions in different ways depending on member perceptions. For example, Hazen (2004) confirmed that the members who are recipients of high quality member transactions and who felt that their voice is heard in the influence of cooperative policy were less likely to support demutualization. Birchall (2002) also found that when cooperative management encourage members to actively participate and transact with the cooperative activities the chances of having financial success are higher than in other organizational structures.

Our *in-situ* findings were consistent with the findings of Liang, Huang, Lu & Wang (2015) and Pascucci, Gardebroek & Dries (2012) who found a positive influence of demutualization on member transactions and financial performance. Liang, Huang, Lu & Wang (2015) found that certain aspects of capital had a positive relationship with member participation and all the capital aspects have a positive influence on the co-operative's economic performance. Pascucci, Gardebroek & Dries (2012) observed that member dependence on the co-operative increases with increase in their total deposits. The higher the transaction cost the lower the member transactions and as demutualization lowers transaction cost ultimately increasing member transactions. This is similar to the case of Kenya where it seems that demutualization has reversed though slightly the inverse relationship between member transactions and financial performance.

This is inconsistent with the findings of Pyykkonen and Ollila (2012), Alho (2015) and Ciliberti, Frascarelli & Martino (2018)



who found that demutualization had a negative effect on member transactions and financial performance. They explore demutualization from a transaction cost perspective. Pyykkonen and Ollila (2012) found that members of the hybrid meat co-operative valued capital benefits and transaction price more highly when compared with dairy mutual co-operative members. This led to the hybrid meat co-operative members becoming more sensitive to the higher transaction cost and ultimately reducing their transactional patronage with their co-operatives. Alho (2015) observed that demutualization led to complex co-operative structures that were highly market oriented than member transaction oriented resulting in capital linked member benefits being more superior to the traditional transaction/patronage linked member benefits. This ultimately negatively affected member transactions. Ciliberti, Frascarelli and Martino (2018) found that transaction asset specificity was the main determinant of member participation and specifically aspects relating to organization structure and specific characteristics of the product and such aspects negatively affected member participation. These discrepancies in findings: with Ciliberti, Frascarelli and Martino (2018) and Alho (2015) may be explained by different member transactional perceptions and economies of Italy and Finland respectively compared to Kenya and discrepancies with Pyykkonen and Ollila (2012) may have been due to the difference in the co-operative sectors the two studies look at, which are the agricultural co-operative sector and Kenyan financial co-operative sector. It is worth noting that the findings of this study were similar to the transaction cost theory that states that demutualization allows for superior price determination and lowers transactions costs involved in serving members thus increasing member transactions.

## **CONCLUSIONS AND RECOMENDATIONS**

The study revealed that financial performance had a negative and significant relationship with member transactions and that demutualization improved this relationship though not significantly. Additionally, it showed that the autonomous financial performance was positive and significant implying that members should anticipate to receive much better rewards for the foreseeable future. The results were counter intuitive and may be explained by the fact that through hybrid demutualization, the organizations pursue a double bottom line as they combine a for-service and a for-profit objective, this will affect quality of services given to their members and possibly in the near future there may be no relation between member reward and member transactions as envisioned in the co-operative finance principle of 'member economic participation'. The principle guides that members should receive limited reward and it should be in proportion to their transactions. As such we may assume that over the next few years' member transactions will continue reducing relative to financial performance and if performance continues to improve so will member reward and as such an intervention strategy needs to be set in motion. If not, the co-operatives may cease from being true co-operatives if they do not adhere to the universal co-operative principles and values.

The sample size of the study cannot be generalized for Kenya but rather shows a picture of a sample area. This paper should not preclude demutualization as a means to adopting to competitive pressure for cooperatives. However, it does not claim that demutualization should be the only viable option also, a balance of sort should be pursued. Finally, this study is based on secondary data inclusion of primary data could complement the findings. This being a

novel study in Kenya, future avenues of the study are to replicate the study in other co-operative companies in Kenya and in SACCOs that have demutualized through opening their common bond to the general public who may not share the same ideologies or characteristics with the original members.

We recommend that policy makers should be concerned with the establishment of a secondary market for co-operative securities. To enable inter-co-operative share trade that adheres to the international co-operative principles. This is to ensure the co-operative spirit and principles are not lost in the process of listing in the capital market and encourage member transactions in a whole new aspect. The introduction of member delivery rights that can be adjusted based on the capital to transaction ratio depending on member investment and transactions/patronization is also recommended. This will help limit the reward members receive while enhancing member transaction with the co-operative. Lastly, co-operatives should devise more products that will be attractive to the individual members of the holding co-operatives and device ways in which these products can be delivered. For instance, creation of instant digital loans/insurance policies that can be given by the holding co-operatives using the security of an individual members' shares and deposits in their primary co-operative society.

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