



AIC 2018: FUTURE OF MARKETING AND MANAGEMENT

Determinants of Financial Inclusion - An Empirical Evidence
from Southeastern Europe

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*Peer-review under responsibility of 4th Asia International Conference 2018 editorial board
(<http://www.utm.my/asia/our-team/>)*

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Research Highlights

Financial Inclusion lays an important role in developing and expanding financial markets. In the last decade, Balkan economies seem to have incensed to progress the deliberation of the financial inclusion and integrate the international financial market into their home financial system and subsequently achieve more escalation economically. Unfortunately, there has been observed small attention specified to the acceptance of recognized financial inclusion, particularly, how the shadow economy and financial outreach influence the financial inclusion. The present study checks and measures the strength and degree of control that shadow economy generate on financial inclusion on the one side, and on the other side it also process, approximate and investigate empirically that how the financial outreach affects financial inclusion in the six selected economies for the purpose of this study. To accomplish the objectives of the study time frame of 2006-2017 was taken for data compilation and investigation. Asymmetrical co-integration approach is used, which commence non-linearity in the measurement of model. The contemporary nonlinear approach co-integration (i.e., NARDL) is used. The results of the study advocate that for Balkan countries it is vastly noteworthy to handle and organize the concerns of financial inclusion flanking the shadow economy size connected challenges. It entail wide-ranging review of existing and potential modification programs that may create accurate use and allotment of financial services products. It may escort to income equality and poverty alleviation. Furthermore the strategy formulation agencies in these economies need to stamp out hindrance to such financial inclusion through quality convenience of financial services products in a satisfactory way. This will convey into stream those underprivileged and economically mislaid firms and households which were earlier someway incapable to donate in the economic improvement. This inclusion as a result will enhance expansion of financial markets and economy leading to in general development of such economies.

Research Objectives

The objective of the research study is to empirically investigate the effect of shadow economy and outreach of financial institutions on the financial inclusions with respect to BALKAN economies.





Methodology

Reserachers in this study has used the hypotheico Deduvtive Method. Quantitative secondary data has been used in this study. Annual data has been gathered from the financial institutions operating in six Balkan countries, mix market, world bank and IMF for the year 2006-2017. To measure the financial inclusion of the market, ratio of M3 to GDP of nonbank intermediaries and banks has been used (Hajilee, Stringer, & Metghalchi, 2017). Shadow economy presents activities that are unregistered which contribute to lowering the GDP of the country. There are multiple ways to determine the shadow economy (Schneider, Buehn, and Montenegro, 2010 , Ahumada, Alvaredo,& Canavese, 2009 and Restrepo-Echavarria, 2015).In this study, shadow economy is characterized by the deficient in of contact to recognized financial gear and services. To evaluate the shadow economy size, we make utilization of the sharing rate of the labor force aged 15 to 64 who are active economically (Schneider, Buehn, andMontenegro, 2010). When measuring the financial inclusion, it is significant to mention the intensity of human capital improvement. Education interventions are often considered as the accompanying factor for increasing the financial inclusion. It has been established that the shadow economy and the shadow unemployment bring positive effects reciprocally(Ciutiene et. al, 2015).

Outreach of financial institutions is measured by the average loan per borrower represented in US dollars and the loan given to female borrowers (WOMAN). Less depth of outreach is designated by the advanced values of the average loan per borrower in this case smaller amount loans are made to poor borrowers. Higher values of loan to female borrowers represent outreach in more depth as lending to women is linked with lending to the poor borrowers (Hermes, Lensink, &Meesters, 2011).

Results and Findings

The results illustrated indicate that the short run estimate in the above sample study has atleast one estimated significant coefficient. This shows that the shadow economy and outreach of financial institutions have effects which are short run on the Balkan Countries. The long run coefficients which are negative for the countries mentioned depict that shadow banking and outreach of financial institutions have negative effects on the financial inclusion. It is noted that the estimated coefficient for the Macedonia, Kosovo and Croatia is not significant in the longer run for the shadow economy. For ALB, Croatia and Romania are





found to have insignificant estimated coefficients in the long run. For Woman, Bulgaria, Romania and Croatia are found to have insignificant coefficients. Long run estimates are valid only if co-integration is established. F is found to have critical value larger than the upper range of 3.77. Next step include the replacement of the lagged level variables by ECMt-1 which is linear combination thus imposed the lag structure that is optimal. The negative coefficient depicts the variables modification towards the long run values and affirms co-integration. The estimated coefficients show the adjustments done in a quarter. First order autocorrelation is tested by LM statistic. Ramsey Regression equation specification error test (RESET test) reports the misspecification. The critical value is 3.84 which implies that models are correctly specified. CUSUM (CUS) is the cumulative sum control chart. CUSUMSQ (represented by CUS2) tests to launch constancy of estimates of short and long run. 'S' is used to denote stable models whereas 'U' is used to denote unstable models. Subsequently value of adjusted R² as the determination coefficient in the model is used to test the goodness of the fit.

The short run estimates exchange rate changes either positive or negative variables bringing at least one significant coefficient. The long run estimates for the significantly positive variables for most countries. The outcomes of test statistics through providing more conservative results. We can depend on the importance of ECM, which is significantly negative in all models, entailing the long run equilibrium values of the mutually interacting variables. For most of the models LM and RESET stands unsubstantial showing constant estimations through CUSUM and CUSUMSQ and a good fit for most of the models. Three categories of asymmetry acknowledged by Shin et al. (2014); including adjustment asymmetry is arbitrated by analyzing the change over the period of short run factors associated to positive and negative change in variables. These tracks are dissimilar in all of the six economies studied; sustaining asymmetrical adjustment. The second category of asymmetry is also linked to short run and is called impact asymmetry to estimate short run variations. Though in the majority of the economies and countries under study it was observed that short run estimates vary in magnitude, direction and statistical significance, Shin et al. (2014) advocated using the Wald test to establish if the cumulative effect of short run multipliers linked to the positive change is unlike the same cumulative effect of negative change.

Therefore, it is recommended that shadow economy has a noteworthy impact on the financial inclusions and the outreach of financial institutions are also found to have a significant effect on financial inclusion. Non-linear co-integration approach has been chosen to identify the asymmetric effects by investigating how shadow economy and financial institutions' outreach concern the financial inclusion. This research study has diverse inference for the financial system which can add to the enhancement of the banking and nonbanking sectors of the Balkan countries.





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