



Critical Analysis on the Impact of Trade Openness and How it Affects Developing Countries Economic Growth: A Case Study of Malawi

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ABSTRACT:

This study is intended to explore and focus on the impact of trade openness on economic growth in developing countries specifically Malawi, by using annual time series data from the period of 1975 to 2020, dates after which she had gained her independence and was under the democratic rule of governance and was led by different government regimes. This paper investigates the nexus and long-run equilibrium between economic growth and trade openness in Malawi using the Error Correction ARDL model which is applied to address the presence of cointegration and the mixture of stationary and non-stationary variables in the dataset. The estimated results will reveal the increase or decrease of rate of growth both in short and long run. The relationship between openness of trade and economic growth has over the years been extensively investigated by many and has yielded mixed and inconclusive results. This might be attributed to the omission of some important determinant variables like labor and capital stock in the trade-growth nexus. The study assumes that innovation, competition, technology, grant and equal business opportunities have strong empirical evidence for fast growing economy. The results reveal that the findings suggest that imports stifle growth while exports boost growth in Africa particularly in Malawi. In this context, we advocate that governments pursue the new structural economic policies to encourage export expansion and promote economic growth. In addition, the study finds that investment plays a positive and statistically significant role in accelerating Malawi's output growth in both the short run and long run. Furthermore, they findings reveal a strong and positive complementary relationship between trade openness and capital formation in promoting and enhancing economic growth. To help the economy of Malawi expand faster, the study recommends: (i) redoubling the country's effort in product diversification and processing in order to reduce the adverse terms-of-trade movements and reliance on only few primary products for export earnings, (ii) implementing policies that help to increase investment, especially through domestic sources, and (iii) implementing policies that attract FDI to spur long run growth.

Index Terms - Trade openness, Economic growth, ARDL model, FDI, Malawi

INTRODUCTION

The Government of Malawi (GOM) has through various trade policy reviews emphasized its commitment of using trade as an instrument for poverty alleviation and the government's quest to attain sustainable socio-economic development. See, for example, Malawi's growth and development strategies I, II and III (Government of Malawi, 2006; 2011; and 2017) and other policy implementation platforms. This is a clear indication that the GOM believes in trade openness as a means to rapid economic growth. In fact, the International Monetary Fund (IMF) regarded Malawi as one of the most open countries in Africa in 2001, with a restrictiveness-of-trade-policy index of 3 out of 10 – where 1 denotes least restrictive (Musila, 2002). Statistics on Malawi's trade openness show that 20 years before venturing into the multilateral trade system (1975-1994), the economy had an average trade openness index of 0.5997; and twenty years into the multilateral trade system (1995-2014), the country registered an improved average trade openness index of 0.6052. Thus, it appears the entry into multilateral trade system made Malawi more open. Over the same period, Malawi's GDP averaged about 1.3 billion US Dollars during 1975-1994 and 4 billion US Dollars during 1995-2014. The casual review of the historical data suggests that changes in GDP appear to respond to movements in trade openness.

One of the current economic debates in recent past has been about the relationship between openness of trade and economic performance specifically growth. With trade openness, research scholars usually measure the degree to which countries are open to international trade with their imports and exports. In contrast, their economic performance is generally measured by gross domestic product (GDP) or productivity in different forms of the economy. The proposed hypothesis in the literature is trying to determine if openness to trade does have an impact on economic performance, either across different countries or over a determined period of time. The significant increase in exports clearly demonstrates a remarkable economic growth phenomenon. Since the dawn of democracy in Malawi in 1993, the business and trade environment has been so conducive to small scale traders such that many individuals and families have been able to establish their own businesses (Majanga, 2015). This has led to the increase in the number of small-scale businesses to account for at least 80% of business entities in Malawi.

It is clearly visible that based on past studies by economic historians over the past century, that the results show undoubtedly divergent performances among different developing countries, particularly in the second half of the twentieth century. Nations like Brazil, Chile, China, Indonesia, India, Korea, Malaysia, Mauritius, Singapore, Thailand, and Vietnam have achieved tremendous openness-growth and lifted hundreds of millions of people out of

poverty in a decade (Lin, 2011). These nations would be perplexed, however, by the seeming inability of African countries, where mankind has stayed imprisoned in poverty (UNCTAD, 2016). Despite the tremendous efforts made by developing countries and the help of many global development agencies, there has been little economic convergence between rich and poor countries. Besides, policymakers of the developing countries wish to know the likely magnitudes of international trade over their relevant time horizons. These time horizons are typically short for policy advisors in emerging countries, as obtaining high growth rates is a key policy goal. In contrast, much of the literature on endogenous growth focuses on long-term growth factors that span decades. As a result, it is vital to discern between policies that can be implemented efficiently in the short to medium term and those that will take decades to implement.

Economic development provides a high standard of economy, investment scenario both domestic and foreign. (Manoj, 2022). The notion that international trade openness leads to economic growth dates back to the times of Adam Smith in the late 18th century. This early analysis focused on the static effects of trade and argued that if the internal relative prices in autarky were different from those that can be obtained internationally, then the country can grow by specializing in and exporting the relatively less expensive domestic product and importing the relatively more expensive product (i.e., specialization and trade based on comparative advantage). It was also argued that international trade can provide a vent for surplus (i.e., a large market that permits a country to increase its output and employment). However, international trade comes with dynamic effects, which can affect the economy positively or negatively. Appleyard and Field (2017) cite the economies of scale that would not be possible with a limited domestic market, the nurturing of infant industries into internationally competitive ones mainly by providing the market size and exposure to products and processes, increased investment, dissemination of technology into the country, exposure to different products, and changes in institutions that come along with the increased exposure to different countries, cultures and products as some of the dynamic benefits of trade. On the other hand, market imperfections and differences in market operation and characteristics of tradeable goods between the developing countries and the industrialized countries are some of the well-known dynamic costs of trade. Baldwin (1984) showed that the dynamic effects of trade on the economy are far more significant than the static effects. The fact that the dynamic effects can enhance or retard economic progress and the possibility that the dynamic effects outweigh the static effects, makes the net effect of trade on economic growth unpredictable and that it can vary from country to country. The uncertainty about the net impact of trade on economic progress has partly been the reason behind interest in re-examining the relationship between trade and growth. Indeed, the relationship between economic growth and trade openness has been one of the active research topics among scholars. However, there is lack of unanimity among the empirical studies about this relationship.

NEED OF THE STUDY.

The establishment of this research was to study the connection between trade openness and economic growth and be able to identify the short & long term relationship between the two very important criteria's. It will help analyze the factors influencing slow economic growth and improve strategies for rapid economic growth by eliminating trade barriers and identifying new ways of increasing exports and foreign direct investment in Malawi. In addition to this I would like to assess geopolitical benefits derived from deeper economic integration.

3.1 Population and Sample

The research targeted the population of Zomba, Blantyre and Lilongwe which are the major cities of Malawi of Malawi and will involve those individuals whose age ranges from 18 to 60 years. To give every member of a population a known and equal chance of being selected, Probability sampling was used, under which the simple random sampling technic was employed in choosing the samples randomly from a group of people and the sample size of the study was 100 participants.

3.2 Data and Sources of Data

This study uses annual time series data spanning from 1975 to 2020 taken from the major cities of Malawi including Zomba, Blantyre and Lilongwe. In order to estimate the relationship in Equation (2). Data on real GDP growth, trade openness (defined as the ratio of the sum of exports and imports to GDP), and population growth (a proxy for labor force growth) were obtained from the World Bank's World Development Indicators (WDI). The study uses the ratios of foreign direct investment (FDI) to GDP and gross fixed capital formation (GFCF) to GDP, whose data were obtained from United Nations Conference on Trade and Development (UNCTAD). The choice of the period of study is related to the availability of data on the interest variables such as trade and economic growth. The dependent variable is economic growth, measured as the log difference of the gross domestic product per capita (GDP). I also included a set of control variables that are commonly used in growth equations.

Table 1. Demographic details of the Respondent

Demographic Profile	Frequency		Percentage
	Men	Women	
Age group			
Below 25	13	10	23
26-35	15	10	25
36-45	9	10	19
46-55	9	11	20
Above 56	6	7	13
Total	100		100
Qualification			

School completed	25	20	45
Bachelor degree	17	17	34
Post graduate	6	10	16
Professional	2	3	5
Total	100		100
Designation			
Executive Level	4	4	8
Top level	10	12	22
Middle level	20	30	50
Low level	10	10	20
Total	100		100
Experience			
0-5 years	20	10	30
5-10 years	25	15	40
10-15 years	9	11	20
More than 15years	6	4	10
Total	100		100

Source: Primary data

The above table shows the respondents categorization on the basis of demographic details. It is very useful to analyze and interpret the data. In the Category of age more number of respondents in men belongs to above the age of 25. In the category of the designation more number of middle level workforce were surveyed and the largest number was 30 which were women. In the same way other details also collected and categorized

Control Variables

Since macroeconomic policies affect growth performance through their impact on financial crisis, the rate of inflation, financial development, external debt, investment in human and physical capital, and institutional quality, variables for these effects are used in the growth equation to capture the impacts of such policies. The effect of inflation is a controversial issue. Some studies claim that inflation has a positive impact on growth (Dornbusch, 1996), while other studies suggest that this effect is characterized by a nonlinear relationship (Fischer, 1993). Inflation is proxied by rate of change in price levels.

This study uses annual time series data for the years spanning from 1975 to 2020 to estimate the relationship in Equation (2). Table 1 shows that Malawi's real GDP growth rate fluctuated from a low of -10.24% to a high of 16.7%, with an average growth of 3.9% per annum (p.a.) during the 45-year period covered by the study. On the other hand, the trade openness index fluctuated between 42% and 91%, with an average of 60%. During the same period, FDI averaged under 2% of GDP p.a. while GFCF averaged just over 19% of GDP p.a. The rate of population growth fluctuated between a quarter percent and 6% p.a., with an average growth rate of about 2.8% p.a.

Table 2: Summary of statistics

Variables	# of obs	Mean	Std. Dev	Minimum	Maximum
Real GDP growth	45	3.90	4.84	-10.24	16.73
GFCF/GDP	45	.60	.10	.419	.91
FDI/GDP	45	1.73	2.53	-1.30	10.15
Population growth	45	19.28	6.57	11.60	38.44
Trade openness	45	2.84	1.20	.25	6.01

3.3 Theoretical framework

The basic framework adopted for the present study is the endogenous growth theory. The theory reflects the idea that changes in technology is the result of things that people do, not something produced outside the economic system. Following Romer (1989), the production function takes on the general form of

$$Y_t = f(K_t, L_t, A_t) \quad (1)$$

Where Y_t refers to aggregate output at time t , A_t is the economy's level of technology at time t , K_t is the level of capital stock at time t , and L_t refers to the labour force at time t . A_t is influenced, for example, by international issues such as trade, among other factors (Grossman and Helpman, 1991).

Growth in aggregate output can take place through increases in capital stock, increases in the labour force, and increases in the level of technology. The capital stock of a country increases as domestic and foreign investment occurs in the country. The labour force expands through increases in population or labour force participation rate. Accordingly, the growth equation in general form is:

$$\text{real GDP growth}_t = f\left(\begin{matrix} \text{trade openness}_t, \text{foreign direct investment}_t, \\ \text{gross fixed capital formation}_t, \text{labour force growth}_t \end{matrix}\right) \quad (2)$$

Since increase in foreign direct investment (FDI) and gross fixed capital formation (GFCF) lead to increase the country's capital stock, which is theoretically believed to increase output, FDI and GFCF are expected to have a positive impact on real GDP. The growth in labor force can have a positive or negative influence on output depending on whether the economy has reached the state of diminishing returns or not. If diminishing returns have been reached, for example, then the increase in the labour force will lead to a decrease in output. The impact of trade openness on growth is an empirical question. The impact of trade on economic growth depends on whether the positive dynamic effects of trade outweigh the negative dynamic effects. If the net dynamic effects of trade are positive, then the trade openness would have a positive impact on economic growth.

RESEARCH METHODOLOGY

The neoclassical growth model lays the theoretical foundation and groundwork for studying the major sources of economic growth. Capital, Technology and labor are the primary determinants of production activities according to this theory. The nexus between trade openness and economic growth has been studied by setting a structured questionnaire with different evaluating factors and economic dimensions. The questionnaire was administered to different individuals around the country, most of which are into different trading ventures. In order to select the samples, a stratified random sampling method was used with a sample size of 100.

TIME SERIES PROPERTIES OF THE VARIABLES

Having obtained the data, the next concern was to determine the time series properties of each of the variables. This is important for determining the appropriate model specification. In this study, we employed the modified augmented Dickey–Fuller test statistic using generalized least squares (DF-GLS) detrending and the Phillips-Perron (PP) test. The DF-GLS approach is deemed to have enhanced statistical properties than the ordinary augmented Dickey–Fuller test (Elliott, et al. 1996). However, the decision to also use the PP test is based mainly on its tendency to perform better in small samples (such as ours) than in large samples.

Table 2 presents the unit root test results of the variables in the model based on the DF-GLS and PP approaches, respectively. The lag order was obtained by the Ng-Perron (1995) sequential t-test criterion, which selects the appropriate lag order by starting with the maximum lag and testing the highest lag's coefficient for significance. The results suggest that the time series for GDP growth and trade openness index are each integrated of order zero – i.e., I (0) at the 1% level of confidence. Thus, we conclude that the GDP growth and trade openness index are stationary. On the other hand, the share of FDI in GDP, the share of gross fixed capital formation in GDP, and rate of growth of population are each non-stationary and integrated of order 1, denoted as I (1).

Table 3: Tests for a unit root

	DF-GLS	PP	number of lags
<i>Level variables:</i>			
GDP growth	-7.490	-7.375	0
Trade openness index	-4.007	-4.270	0
FDI as a % of GDP	-3.298	-1.870	0
Gross capital formation as a % of GDP	-2.200	-2.421	0
Population growth	-2.159	-1.982	3
<i>First difference variables:</i>			
FDI as a % of GDP	-5.824	-6.099	0
Gross capital formation as a % of GDP	-5.802	-5.679	0
Population growth	-3.654	-2.672	3

The critical values of t for DF-GLS test are -3.770, -3.278 and -2.965 at the 1, 5 and 10% level of significance, respectively. The critical values of t for PP test are -3.655, -2.961 and -2.613 at the 1, 5 and 10% level of significance, respectively.

Having determined that some variables in the theoretical model are I (0) and others are I (1), the autoregressive distributed lag (ARDL) was selected as the appropriate framework. The ARDL model (also abbreviated as ADL) has been used for many decades to model the relationship between economic variables in a single-equation time series setup such the one used in this study. Unlike the Johansen cointegration technique, the ARDL approach allows the I (0) and I (1) variables in the same estimation model (Pesaran et al, 2001). The ARDL model is also relatively more efficient than other specifications in the case of small and finite sample data series and produces unbiased long-run estimates. The ARDL model for the present study is specified as:

$$\text{rgdpg}_t = \alpha_0 + \sum_{i=1}^n \delta_i (\text{rgdpg})_{t-i} + \sum_{i=0}^n \beta_i \mathbf{Z}_{t-i} + \varepsilon_t \quad (3)$$

where rgdpg represents real GDP growth rate, \mathbf{Z} is a 4 x 1 vector comprising of variables for trade openness, FDI as a percentage of GDP (i.e., FDI/GDP), gross fixed capital formation as a percentage of GDP (i.e., GFCF/GDP), and rate of growth of population (RGP), and ε is the white noise. The δ 's are the short-run coefficients while β 's are the long-run coefficients. For purpose of illustration, I have assumed that the variables in \mathbf{Z} have same lag order n, but this does not need to be the case in practice.

Prior to the ARDL model estimation, Granger causality tests were performed to determine the direction of causality. Table 3 presents the tests of Granger causality using stationary variables. The Granger causality Wald tests suggest the presence of bi-directional causality between the variable for GDP growth and the variable for trade openness index. The null hypotheses that trade openness does not Granger cause GDP growth or GDP growth does not Granger cause trade openness are each rejected. However, based on the statistical significance of the individual coefficients of the lagged variables (results not reported here but available upon request), the tests suggested that trade openness causes GDP growth ahead of GDP growth causing trade openness. The Granger causality Wald test also reject the null hypothesis that trade openness, foreign direct investment, gross fixed capital formation, and population growth, as a group, does not cause GDP growth. Granger causality Wald tests between the rest of the variables are also presented in Table 3 below.

Table 4: Granger causality Wald test

Dependent Variable	Causal Variable (lag order = 4)					
	Rgdpg	Openness	$\Delta(\text{FDI}/\text{GDP})$	$\Delta(\text{GFCF}/\text{GDP})$	$\Delta(\text{PGR})$	All
Rgdpg	-	0.023	0.648	0.303	0.739	0.039
Openness	0.027	-	0.070	0.627	0.030	0.002
$\Delta(\text{FDI}/\text{GDP})$	0.965	0.295	-	0.951	0.957	0.847
$\Delta(\text{GFCF}/\text{GDP})$	0.175	0.000	0.003	-	0.005	0.000
$\Delta(\text{RGP})$	0.152	0.060	0.007	0.003	-	0.003

Note: Figures reported are p-values of Wald statistics. The lag order is determined based on AIC.

MODEL SPECIFICATION AND ESTIMATION

In order to determine the appropriate version of the ARDL model for estimation, the Pesaran-Shin-Smith (2001) ARDL bound testing procedure was applied to evaluate the presence of a long-run relationship between GDP growth and the explanatory variables. The bound test for the null hypothesis of no levels relationship yielded the F-statistic of 8.997 and t-statistic value of -6.249. Accordingly, the null hypothesis at the 1% level of significance was rejected. The bound test suggests a relationship among the level variables. Thus, error correction (EC) form of the ARDL would be the appropriate application. In this study, the EC form of the ARDL model is as follows.

$$\Delta(\text{rgdpg}_t) = c_0 - \alpha(\text{rgdpg}_{t-1} - \beta\mathbf{Z}_{t-1}) + \sum_{i=1}^{m-1} \varphi_{\text{rgdpg}i} \Delta \text{rgdpg}_{t-i} + \varphi' \Delta \mathbf{Z}_t + \sum_{i=1}^{n-1} \varphi_{\mathbf{Z}i} \Delta \mathbf{Z}_{t-i} + u_t \quad (4)$$

where rgdpg and \mathbf{Z} are as defined in Equation (3). β 's are long-run coefficients. α is the speed of adjustment that measures how quickly the dependent variable reacts to deviations from the equilibrium relationship in one period, say one-year. The coefficients $\varphi_{\text{rgdpg}i}$, $\varphi_{\mathbf{Z}i}$ and φ are for lagged changes in the dependent variable, lagged change in the explanatory variables and non-lagged change in explanatory variables. The coefficients φ 's account for short run fluctuations.

ESTIMATES FOR THE LONG RUN RELATION

The estimated coefficients of the long run relationship suggest that, other factors constant, trade openness has an oscillating effect on Malawi's economic growth. More specifically, an increase in trade openness index will have a negative impact on growth in the same period, followed by a positive impact in the next year and a negative impact in the year after with a negative net effect. The estimates also show that FDI and GFCF play a significant net positive role in the economic growth of the Malawian economy. These findings are consistent with Herzer et al (2008) and Mahende and Odhiambo (2014) for FDI and Bond et al (2010) for GFCF. We do not find growth in population or labour force to be a significant factor in the growth of Malawi's output. This may be an indication that labor is already an abundant factor in Malawi.

ESTIMATES FOR THE SHORT RUN RELATION

The results suggest that, other factors constant, an increase in the trade openness index has a negative and statistically significant impact on GDP growth in the short run. This result is consistent with some of the results of Musila and Yiheyis (2015), who found trade-policy induced openness to have negatively impacted on Kenya's economic growth. However, there are potential sources for the immiserating growth in Malawi. First, Malawi specializes in the production and export of mainly tobacco, sugar, and tea whose world prices have been declining over the years. On the other hand, it imports capital goods that it requires to accelerate the rate of economic growth but whose prices are stable. This implies that Malawi has to export more of her primary commodities to finance the same level of capital imports. Second, Malawi's imports are largely made up of communication equipment, which are not intermediate inputs in the country's production process. Third, Malawi's specialization in production of tobacco, sugar, and tea offers very little dynamic benefits in terms of innovations or trained labor force.

IV. RESULTS AND DISCUSSION

This study investigated the impact of trade openness on economic growth in Malawi using annual time series data from 1975 to 2020. The analysis included FDI as a percentage of GDP, GFCF as a percentage of GDP, and Population growth as a proxy for growth in the labor force as control variables. The Error Correction form of the ARDL model was used as the estimation procedure because of the presence of both stationary (I(0)) and non-stationary (I(1)) variables in the model and the presence of cointegration. Contemporary tendencies of economic growth integration have substantially promoted openness in trade. The results show some slight conflicting outcomes on the incidence of openness in trade on GDP growth.

The results indicate that an increase in trade openness has a negative effect on GDP growth in the short run but oscillating effect on growth in the long run. That is, for the long run, a rise in trade openness will initially reduce growth in the current period, increase growth in the next period, before again dampening growth in the following period – with a negative net effect. The results also show that investment (more specifically, gross fixed capital formation) plays positive and significant role in accelerating the rate of economic growth in Malawi.

Several implications can be drawn from this study, which may act as rappers for policy formulation. First, in order for trade to act as an engine of economic growth, Malawi will require to avoid reliance on a few primary commodity exports and diversify her production and exports base to include manufactured goods. Second, to enhance Malawi's growth performance, it is necessary to consolidate macroeconomic stability by continuing to implement sound macroeconomic policies. The results have shown that investments matter for Malawi's economic growth both in the short run and long run. Thus, macroeconomic policies aimed at increasing investment, especially through domestic sources, are crucial. Attracting FDI will also be crucial to GDP growth in the long run.

The present study investigated the relationship between trade openness and the growth of the aggregate economy. However, international trade is known to affect different sectors differently through the reallocation of resources. Modelling the sectoral impacts of trade openness for Malawi remains a topic of future research interest.

CONCLUSION

Trade openness promotes economic growth through various channels e.g., achieving efficiency in the allocation of resources due to export oriented policies; attracting foreign direct investment; providing access to advanced technology to enhance domestic production; creating economic and financial integration; enhancing total factor productivity, to name a few. In line with the theoretical arguments, the present study examines whether trade openness promotes or impedes economic growth in the short and long run. Using ARDL bounds testing approach which developed by Pesaran (2001). The findings suggest that economic growth gets boosted from gross capital formation and trade index which help sustained economic growth in the short and long run. Moreover, Leamer (1995) and Vamvakidis (2002) discussed that proper implementation of economic and trade policies enables an economy neutralize external shocks and the benefit from trade openness. For trade to have meaningful effect on economic growth, Turkey should concentrate more on financial development. The latter not only contributes to economic growth through capital formation but also promotes trade activity by making financial resources available at lower cost; attracting foreign direct investment as well as facilitating development of advanced technology. Grossman and Helpman (1991), Young (1991a, 1991b) and Rivera-Batiz (1991) highlight the role of human capital in economic development. Trade openness promotes economic growth through spillover effects and diffusion of advanced technology brought from the developed world.

Our findings confirm positive and strong complementarily relationship between trade openness and gross capital formation in accelerating economic growth in the short and long run. This shows that human capital plays a vital role in economic growth. The magnitude of economic growth due to trade openness and financial development depends upon the availability of human capital in the country especially skilled ones. The government should focus on developing human capital, financial sector and trade expansion through appropriate economic and trade policies for sustained long run economic growth.

Moreover, as the Western countries and their multinational corporations dominate and exploit poorer countries' economies, developing countries particularly African nations need to strategize and break the dependency trap. As proposed by the old structural economists, import substitution strategies should be prioritized, with developing economies closed and protected until their modern industries can compete in global markets with advanced industrialized countries. As a strategy to bring in foreign currency through export revenues, we suggested trade openness and export promotion. This is also in line with the belief that outward-oriented development methods are more beneficial in the long run than inward-looking ones. The view that such a plan would raise demand for unskilled labor and thus unskilled pay strengthened this perspective even more.

Specifically, based on sub-regional results and the trade flows (imports and exports), the regions possess comparative advantage (that is, export what the rest of the world needs and are slowly upgrading its industries step by step at a pace consistent with the change in its endowment structure to make its economy competitive exports in the sub-regions). On the other hand, imports apart from the Northern Africa sub-region should be restricted to boost domestic production of consumable goods. The governments should look into policies initiatives on maintaining macroeconomic stability, keeping high rates of saving and investment, using markets to allocate resources, and having committed, credible, and capable governments. Also, policymakers and governing authorities should adapt marketing goods through E-trade platforms to maximize continuous sustainable growth.

AREA FOR FURTHER STUDY

A further study can be conducted on the trade openness and its direct connection to economic growth and how to eliminate the barrier between the two criteria's in developing countries specifically in Malawi.

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