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# Are financial benefits of financial globalization questionable until greater domestic financial development has taken place?


## Abstract

**Purpose** – The issue of which financial initial conditions are necessary to materialize the benefits of financial globalization remains open to debate in the literature. In this paper, we try to put some empirical structure on the concept of financial threshold conditions in order to give policymakers guidance on the Kose et al.(2011) and Henry(2007) hypothesis. Its object is to assess if financial benefits of financial globalization are questionable until greater domestic financial development has taken place in developing countries.

**Design/methodology/approach** – In framing the financial dimension in a more concrete and tractable manner, we probe into the concerns of how domestic financial initial dynamics of depth(economic and financial systems), efficiency(banking and financial systems), activity (banking and financial systems) and size play-out in the financial development benefits of financial globalization. The estimation approach consists of assessing the impact of financial globalization through-out the conditional distributions of domestic financial development dynamics.

**Findings** – The introduction of previously missing financial dimensions into the debate generates a number of important findings. Only financial initial(threshold) conditions in depth and size are necessary to materialize the benefits of financial globalization. Domestic dynamics of efficiency and activity(credit) do not confirm the hypothesis.

**Practical implications** – Depending on the context of sampled countries, the appropriate role of policy has always been either to stem the tide of capital flows or encourage them. Policymakers who have been viewing their challenges exclusively from the later perspective for benefits in growth(finance) might be getting the financial dynamics badly wrong.

**Originality/value** – Blanket financial development policies may not reap the financial benefits of financial globalization until domestic financial dynamics of depth, efficiency, activity and size are critically considered. The introduction of the last three previously missing components in the literature sheds more light on the globalization-development nexus.



*JEL Classification*: F02; F21; F30; F40; O10

*Keywords*: Banking; International investment; Financial integration; Development

## 1. Introduction

Recent advances in the theoretical and empirical literatures indicate the benefits of financial integration maybe questionable until greater domestic financial and institutional developments have taken place. A new framework for analyzing financial globalization highlights the tension between the indirect benefits of financial integration and the potential risks if a country opens up to capital flows without the right initial conditions in place (Kose et al.,2011). From a practical perspective, a reasonable evaluation of the cost-benefit trade-off requires a better insight into what these initial conditions are and how exactly they matter. This is an essential component of an analytical framework that can take account of country-specific features and initial conditions in designing a pragmatic approach to capital account liberalization at the advent of globalization(Prasad & Rajan, 2008).

The financial crisis has re-ignited the fierce debate about the merits of financial globalization and its implications for financial development especially in developing countries. The worldwide financial crisis has dramatically driven home the downside of financial globalization, as many emerging markets and developing economies had to grapple with surges in capital flows earlier in the last decade and then experienced a sharp reversal of those inflows at the height of the crisis(Kose et al., 2011). Financial linkages have served as a channel for the global financial turmoil and economic downturn to reach their shores. This has re-ignited the fierce debate about the merits of financial globalization and its implications for growth and volatility, especially for developing countries. In theory however financial globalization should facilitate efficient international allocation of capital and promote international risk sharing. Though these benefits should be much greater for developing countries[1], the issue of which

[1] Developing countries are relatively capital scare and labor rich, so access to foreign capital should help them increase investment and growth. More so, developing countries have more volatile output than advanced industrial economies, which makes their potential welfare gains from international risk sharing much greater(Kose et al.,2011).

financial initial conditions are necessary to materialize the benefits of financial globalization remains open to debate in the literature(Henry,2007).

The recent wave of financial globalization started in the mid-1980s with rising cross-border financial flows among industrial economies and between developing countries. This was spurred by liberalization of capital controls in many of these countries, in anticipation of the benefits that cross-border flows would bring in terms of better global capital allocation and improved possibilities of international risk-sharing. The strong presumption was that these benefits ought to be large, especially for developing countries that tend to be relatively capital-poor and have more volatile income growth(Kose et al.,2006). With the surge in financial flows, came a spate of currency and financial turmoils in the late 1980s and 1990s. There is a widely held perception that developing countries opening-up to capital flows have been more vulnerable to these crises(and more adversely affected) than industrial countries. These developments have sparked a fierce debate among both academics and practitioners on the costs and benefits of capital account openness. The debate has intensified and become more polarized over time, in contrast to the debate on trade liberalization, which has more or less tilted towards a consensus(Kose et al.,2006). Some proponents view increasing capital account liberalization and unfettered capital flows as a serious impediment to global financial stability(Rodrik, 1998; Bhagwati, 1998; Stiglitz,2000), leading to calls for capital controls and the imposition of frictions, such as “Tobin taxes” on international asset trade. Others argue that increased openness to capital flows has to a great extent proven essential for countries aiming to upgrade from lower to middle-income status, while significantly enhancing stability among industrialized countries(Fischer, 1998; Summers, 2000). This is evidently a matter of considerable policy relevance, especially with major economies like China and India recently taking steps to open-up

their capital accounts. Thus this lends credit to the view that empirical literature is gradually tilting toward supporting a significant positive role for financial globalization, though there are many unanswered questions about how a country should organize and pace its move.

In this paper, we try to put some empirical structure on the concept of financial threshold conditions in order to give policymakers guidance on the issue. We probe into the concerns of how financial dynamic initial conditions of depth, efficiency, activity and size play-out in the benefits of financial globalization. Thus for each financial dynamic we investigate if the benefits(ills) of financial globalization are different across the conditional distributions of financial development. Our main contribution is the introduction of previously missing financial components in the liberalization-finance debate. Thus we examine the Kose(2011) and Henry(2007) hypotheses[2] in the light of new financial dimensions. Threshold initial conditions from our findings could ease policy guidance on the debate. Particularly on the issue of which financial initial conditions are necessary to materialize the benefits of financial globalization, a concern open to debate in the literature(Henry,2007)[3]. The rest of the paper is organized as follows. We begin in Section 2 by reviewing some conflicts in existing literature. We position the current paper in the context of the debate in Section 3. In Section 4, we tackle the measurement and methodological issues. Empirical analysis and discussion are covered in Section 5. Section 6 concludes.

[2] "In this paper we develop a unified empirical framework for characterizing such threshold conditions. We find that there are clearly identifiable thresholds in variables such as financial depth and institutional quality: the cost-benefit trade-off from financial openness improves significantly once these threshold conditions are satisfied"(Kose et al.,2011, p.1).

[3] "Whereas the Indian current account has been opened fully though gradually in the 1990s, a more calibrated approach has been followed in the opening of the capital account and subsequently the financial sector. This approach is consistent with the weight of available empirical evidence on the benefits of capital account liberalization for acceleration of economic growth, particularly in emerging economies. Evidence suggests that the greatest gains are obtained from openness to foreign direct investment followed by portfolio investment. Benefits resulting from external debt flows are questionable until greater domestic financial market development has taken place (Henry, 2007)".

## 2. Conflicts in the literature

The decision to move from a closed account regime(where capital may not move freely in and out of the country) and liberalize capital accounts (in which capital can enter and leave at will) is not without controversy. From a broad perspective, there are two starkly different views about the wisdom of capital account liberalization as a policy choice for developing countries.

In the first strand, allocation efficiency draws heavily on the predictions of the standard neoclassical growth model pioneered by Robert M. Solow(1956). In the neoclassical model, liberalizing the capital account eases a more efficient international allocation of resources and produces all kinds of salubrious effects. Resources flow from capital abundant developed countries where the return of capital is low, to capital-scare developing countries where the return of capital is high. The flow of resources into the developing countries reduces their cost of capital, triggering a temporal increase in investment and growth that permanently raises their living standards(Fischer, 1998; Obstfeld,1998; Rogoff, 1999; Summers,2000). Partially motivated by the prospective gains from incorporating allocating efficiency arguments into their economic policies, dozens of developing countries from Santiago to Seoul implemented some form of financial liberalization during the past quarter century.

The alternative strand view's allocation efficiency as a fanciful attempt to extend the results on the gains from international trade in goods to international trade in assets. The predictions of allocation efficiency stand ground only when the economy suffers from no distortions other than barriers to free capital flows. Owing to many distortions in developing countries, skeptics argue that the theoretical predictions of the neoclassical model bear little resemblance to the reality of capital account policy. Provocative titles like "Who Needs Capital Account Convertibility?"(before the turn of the century) and "Why did financial globalization

disappoint?"(a decade after) by Rodrik(1998) and Rodrik & Subramanian(2009) respectively, best characterize this view. Rodrik(1998) find no correlation between the openness of countries' capital accounts and the amount they invest or the rate at which they grow. He concludes that the benefits of open capital account(if indeed they exist) are not really apparent, but that the cost are manifestly evident in the form of recurrent emerging-market crises. Sodrik & Subramanian(2009) conclude that, in the wake of the sub-prime financial crisis, the claims that recent financial engineering has generated large gains are sounding less plausible, and it is becoming clear that domestic finance will come under closer scrutiny. On the international front, even leaving financial crises aside, it appears increasingly clear that the benefits of financial globalization are hard to find. Financial globalization has not generated increased investment or higher growth in emerging economies. Economies that have grown most rapidly have been those that rely less on capital inflows. Financial globalization has felt short of smoothing consumption or/and reducing volatility. They further advocate that evidence based on financial globalization today is indirect, speculative and in their view ultimately unpersuasive. According to them, it is time for a new paradigm on financial globalization and one that recognizes that more is not necessarily better. "*As long as the world economy remains politically divided among different sovereign and regulatory authorities, global finance is condemned to suffer from deformation far worse than those of domestic finance. Depending on the context and country, the appropriate role of policy will be as often to stem the tide of capital flows as to encourage them. Policymakers who view their challenges exclusively from the latter perspective will get it badly wrong*"(Rodrik & Subramanian, 2009, 16-17).

**3. Positioning of the current paper**

Before the Asian financial crisis of 1997 hit the headlines, there was an emerging consensus among leading macroeconomists that it was time for developing countries to embrace the liberalization of their capital accounts(Rodrik & Subramanian, 2009). In a famous speech during the IMF's Annual Meetings in 1997, Stanley Fischer presented the case for financial globalization and advocated an amendment to IMF's articles, the object of which would allow the Fund to promote the orderly liberalization of capital movements(Fischer, 1997). There were risks associated with opening-up to capital accounts but Fischer was of the opinion that these could be offset by the potential benefits. Dornbusch(1996) who had advocated the usefulness of financial transactions taxes before Fischer(1997), declared capital controls "*an idea whose time is past*" and posited "*the correct answer to the question of capital mobility is that it ought to be unrestricted*"(Dornbusch,1998,20). After Fischer's prophesy, there has been an explosion in empirical works on the consequences of financial globalization. However, far from clinching the case for capital account liberalization, these studies paint quite a paradoxical and mixed picture(Rodrik & Subramanian, 2009). Perhaps the most detailed review of the literature conclude that the cross-country evidence on the growth benefits of capital-account openness is inconclusive and lacks robustness(Kose et al.,2006).

Kose et al.(2006) have surveyed an extensive literature and proposed an alternative framework for analyzing the macroeconomic implications of financial globalization in order to pull together existing strands and evidences. These authors postulate that in theory financial globalization should catalyze domestic financial market development, improve corporate and public governance, provide incentives for greater macroeconomic policy discipline. Such indirect benefits may be more important than the traditional financial channel emphasized in

previous analyses. Recent work inspired by the phenomenon of global current imbalances suggest that developing countries that are more open to certain types of financial flows but overall are less reliant on foreign capital(and finance more of their investment through domestic savings) have on average experienced better growth performance(Kose et al.,2011).

A major debate however is that there seem to be certain 'threshold' levels of financial and institutional developments that an economy needs to attain before it can get the full indirect benefits and reduce the risks of capital account liberalization. It has been generally framed that industrial countries which typically have better institutions, more stable macroeconomic policies and deeper financial markets than developing countries have been the main beneficiaries of financial globalization. This has led many authors to argue that developing countries should focus on institutional capacity building and strengthening of their financial markers before opening-up their capital accounts(Rodrik & Subramanian, 2009). How to balance these considerations against the potential benefits to be gained from financial integration is a pressing policy question now that developing countries again are facing the difficult choices of whether and how to liberalize capital account transactions further.

This paper contributes to existing literature by putting some empirical structure on the concept of financial threshold conditions in order to give policymakers guidance on the Kose et al.(2011)[4] and Henry(2007)[5] hypotheses. In framing the financial dimension in a more concrete

[4] "*In this paper we develop a unified empirical framework for characterizing such threshold conditions. We find that there are clearly identifiable thresholds in variables such as financial depth and institutional quality: the cost-benefit trade-off from financial openness improves significantly once these threshold conditions are satisfied*"(Kose et al.,2011, p.1).

[5] "*Whereas the Indian current account has been opened fully though gradually in the 1990s, a more calibrated approach has been followed in the opening of the capital account and subsequently the financial sector. This approach is consistent with the weight of available empirical evidence on the benefits of capital account liberalization for acceleration of economic growth, particularly in emerging economies. Evidence suggests that the greatest gains are obtained from openness to foreign direct investment followed by portfolio investment. Benefits resulting from external debt flows are questionable until greater domestic financial market development has taken place*" (Henry, 2007).

and tractable manner, we probe into the concerns of how financial dynamic initial conditions of depth, efficiency, activity and size play-out in the benefits of financial globalization. In plainer terms we focus on the financial dimension of the initial conditions debate and assess if the financial benefits of financial globalization are questionable until greater domestic financial development has taken place. In contrast to existing literature, this article introduces previously missing financial development components into the debate. We argue that the concept of financial development should not be restricted to financial depth(deepening); as financial components of efficiency, activity and size in the finance-development nexus have become increasingly relevant( Asongu, 2011ac).

## 4. Data and Methodology

### 4.1 Data

We examine a sample of 15 African countries for the period 1996-2009 with data from African Development Indicators(ADI) and the Financial Development and Structure Database(FDSD) of the World Bank. Our restriction to 15 countries is constrained by:(1) data availability and; (2) the focus on findings with updated policy implications. Summary statistics(Appendix 1), correlation analysis with presentation of countries(Appendix 2) and variable definitions(Appendix 3) are detailed in the appendices. In a bid for clarity in presentation, we classify selected variables into two main strands below.

#### *4.1.1 Financial development dynamics*

*a) Financial depth*

Borrowing from the FDSD and recent finance literature(Asongu, 2011abcd) this paper measures financial depth both from overall-economic and financial system perspectives with

indicators of broad money supply (*M2/GDP*) and financial system deposits (*Fdgdp*) respectively. While the former denotes the monetary base plus demand, saving and time deposits, the later indicates liquid liabilities. Since we are dealing exclusively with developing countries, we distinguish liquid liabilities from money supply because a substantial chunk of the monetary base does not transit through the banking sector (Asongu, 2011e). The two indicators are in ratios of GDP (see Appendix 3) and both can robustly cross-check each other as either account for over 98% of information in the other (see Appendix 2).

*b) Financial efficiency*

By financial intermediation efficiency here, this study neither refers to the profitability-oriented concept nor to the production efficiency of decision making units in the financial sector (through Data Envelopment Analysis: DEA). What we seek to highlight is the ability of banks to effectively fulfill their fundamental role of transforming mobilized deposits into credit for economic operators(agents). We adopt proxies for banking-system-efficiency and financial-system-efficiency (respectively 'bank credit on bank deposits: *Bcbd'* and 'financial system credit on financial system deposits: *Fcfd'*). Like with financial depth, these two financial allocation efficiency proxies can cross-check each other as they represent more than 86% of variability in one another (see Appendix 2).

*c) Financial size*

With respect to the FDSD we measure financial intermediary size as the ratio of "deposit bank assets" to "total assets" (deposit bank assets on central bank assets plus deposit bank assets: *Dbacba*).

*d) Financial activity*

By financial intermediary activity here, the work highlights the ability of banks to grant credit to economic operators. We proxy for both banking intermediary activity and financial intermediary activity with "private domestic credit by deposit banks: *Pcrb*" and "private credit by domestic banks and other financial institutions: *Pcrbof*" respectively. The later measure cross-checks the former as it represents more than 90% of information in the former (see Appendix 2).

*4.1.2 Other variables*

In accordance with mainstream literature(Henry,2007; Rodrik & Subramanian, 2009), financial globalization and trade liberalization are measured by Foreign Direct Investment(FDI) and trade openness respectively. We measure economic prosperity at macro and micro levels in terms of GDP growth and GDP per capita growth rate, to control for the 'growth led finance' nexus in the regressions. Control variables also include other determinants of financial development that have been substantially used in the economic growth literature. These include population growth, inflation, public investment and development assistance.

**4.2 Methodology**

Borrowing from Billger & Goel (2009), to determine if existing levels of financial development affect how financial globalization comes into play, we use quantile regression. This technique enables us to investigate if the relationship between each financial dynamic(depth, efficiency, activity and size) and the exogenous variables differ throughout the distribution of the dependent variable(Keonker & Hallock, 2001). The research question of this paper which is to assess if financial benefits of financial globalization are questionable until greater domestic financial development has taken place, is compatible with the quantile estimation approach.

Therefore, based on this technique we are able to carefully assess how financial globalization plays-out throughout the conditional distribution(with particular emphasis on countries with the highest and lowest levels of financial development).

Some studies on the determinants of financial development are based on Ordinary Least Squares(OLS) estimation, which report parameter estimates at the conditional mean of the financial dependent variable. While mean effects are certainly important, one of the underlying assumptions of OLS regression is that the error term and the dependent variable are normally distributed. However, quantile regression does not require a normally distributed disturbance term. Quantile regression(QR) yields parameters estimated at multiple points in the conditional distribution of the dependent variable(Koenker & Bassett, 1978) and has gained attention in recent development literature(Billger & Goel, 2009; Okada & Samreth, 2012).

The $\theta$ th quantile estimator of the endogenous variable is obtained by solving for the following optimization problem.

$$\min_{\beta \in R^k}\left[\sum_{i\in\{i:y_i\geq x_i'\beta\}}\theta\left|y_i - x_i'\beta\right| + \sum_{i\in\{i:y_i\geq x_i'\beta\}}(1-\theta)\left|y_i - x_i'\beta\right|\right] \qquad (1)$$

Where $\theta \in (0,1)$. Contrary to OLS which is based on minimizing the sum of squared residuals, with QR we minimize the weighted sum of absolute deviations. For instance the $10^{th}$ or $90^{th}$ quantiles(with $\theta$ =0.10 or 0.90 respectively) by approximately weighing the residuals. The conditional quantile of $y_i$ given $x_i$ is :

$$Q_y(\theta / x_i) = x_i'\beta_\theta \qquad (2)$$

where unique slope parameters are estimated for each $\theta$ th quantile of interest. This formulation is analogous to $E(y/x) = x_i'\beta$ in the OLS slope though parameters are estimated only at the

mean of the conditional distribution of the dependent variable. For the model in Eq.(2) the dependent variable $y_i$ is a financial development dynamic while $x_i$ contains a constant term, GDP growth, GDP per capita growth, population growth, inflation, public investment and development assistance. The quantile estimation technique is more robust than the OLS approach in the presence of outliers when the distribution of the dependent variable is a highly non-normal pattern(Okada & Samreth, 2012). We also report results for Least Absolute Deviations(LAD) which should correspond to those of the $0.5^{th}$ quantile.

## 5. Empirical analysis

### 5.1 Summary of findings

The results presented in Tables 1-4 include OLS, LAD and QR estimates. OLS estimates provide a baseline of mean effects and we compare these to estimates of LAD and separate quantiles in the conditional distributions of the dependent variable. In the interpretation of estimated coefficients, note should be taken of the fact that smaller values(in conditional distributions) of the dependent variable denote less financial development. Table 1 shows results for financial depth in overall economic(Panel A) and financial system(Panel B) perspectives. Table 2 report's findings for financial intermediary efficiency from banking(Panel A) and financial(Panel B) system standpoints. In Table 3, results include those of banking system activity and financial system activity in Panel A and Panel B respectively. The analysis summarized in Table 4, include regressions for financial size.

The findings in Table 1 confirm the research hypothesis, implying the financial depth benefits of financial globalization are positive only when domestic financial depth has attained a certain threshold. This result is consistent across specifications for both dimensions of financial depth. Implying results of financial depth at overall economic level(Panel A) are robust to those

of financial depth at the financial system level(Panel B). Most control variables are broadly significant with the right signs. For instance, public investment(foreign-aid) increases(decreases) financial depth(or economic growth): broadly consistent with recent African growth literature(Asongu, 2012a,2012b). Ultimately, the research hypothesis is validated with respect to financial depth: in line with Kose et al.(2011) and Henry(2007). A down-to-earth elucidation of this finding reflects the benefits from financial liberalization for countries with high levels of domestic savings(deposits) in the globalization process.

Based on the results in Table 2, the research hypothesis is not valid for financial intermediary efficiency. This is true across specifications and panels: banking system efficiency(Panel A) and financial system efficiency(Panel B). This implies the allocation efficiency benefits of financial liberalization are not contingent on existing levels of domestic financial intermediary development efficiency. The negative effect of financial liberalization on financial efficiency is consistent with recent African finance literature(Asongu,2010; Asongu, 2011f).

## Table 1: Determinants of Financial Depth: OLS, LAD and Quantile Regressions

| | OLS | LAD | Q 0.1 | Q 0.25 | Q 0.50 | Q 0.75 | Q 0.90 |
|---|---|---|---|---|---|---|---|
| **Panel A: Economic Financial Depth(Money Supply :M2)** | | | | | | | |
| **Specification 1** | | | | | | | |
| Constant | **1.019*** ** | **1.169*** ** | **0.610*** ** | **1.048*** ** | **1.169*** ** | **1.341*** ** | **1.498*** ** |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Foreign Direct Investment | -0.001 | -0.001 | **-0.002**** | **-0.003*** ** | -0.001 | 0.002 | **0.013*** ** |
| | (0.503) | (0.629) | **(0.046)** | **(0.001)** | (0.625) | (0.382) | **(0.000)** |
| Trade | 0.0006 | -0.0003 | -0.000 | -0.0001 | -0.0003 | **-0.0008**** | **-0.0006*** ** |
| | (0.126) | (0.630) | (0.850) | (0.400) | (0.534) | **(0.017)** | **(0.005)** |
| Economic Prosperity | 0.001 | -0.000 | -0.001 | -0.001 | -0.000 | **-0.004*** | **-0.006*** ** |
| | (0.742) | (0.986) | (0.364) | (0.296) | (0.985) | **(0.092)** | **(0.000)** |
| Inflation | **-0.000*** | -0.000 | -0.000 | -0.000 | -0.000 | -0.000 | **-0.000**** |
| | **(0.088)** | (0.952) | (0.603) | (0.401) | (0.590) | (0.339) | **(0.010)** |
| Population growth | **-0.279*** ** | **-0.313*** ** | **-0.157*** ** | **-0.302*** ** | **-0.313*** ** | **-0.329*** ** | **-0.369*** ** |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Observations | 210 | 210 | 210 | 210 | 210 | 210 | 210 |
| **Specification 2** | | | | | | | |
| Constant | **0.283*** ** | **0.180*** ** | **0.239*** ** | **0.190*** ** | **0.180*** ** | **0.233*** ** | **0.487*** ** |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Foreign Direct Investment | -0.004 | -0.003 | **-0.002**** | **-0.008*** ** | -0.003 | **0.008*** | 0.008 |
| | (0.243) | (0.657) | **(0.019)** | **(0.000)** | (0.166) | **(0.073)** | (0.253) |
| Trade | **0.002*** ** | **0.002*** ** | **-0.0003**** | **0.0003** | **0.002*** ** | **0.003*** ** | **0.003*** ** |
| | **(0.000)** | **(0.000)** | **(0.024)** | **(0.171)** | **(0.000)** | **(0.000)** | **(0.002)** |
| Per capita Economic Prosperity | -0.000 | 0.010 | **-0.006*** ** | -0.003 | **0.010*** ** | **0.018*** ** | 0.009 |
| | (0.993) | (0.196) | **(0.000)** | (0.148) | **(0.000)** | **(0.001)** | (0.302) |
| Public Investment | **0.019*** ** | **0.025*** ** | **0.006*** ** | **0.022*** ** | **0.025*** ** | **0.033*** ** | **0.019*** |
| | **(0.000)** | **(0.001)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.051)** |
| Development Assistance | **-0.016*** ** | **-0.019*** ** | **-0.004*** ** | **-0.009*** ** | **-0.019*** ** | **-0.027*** ** | **-0.022*** ** |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Observations | 210 | 210 | 210 | 210 | 210 | 210 | 210 |
| **Panel B: Financial System Depth(Liquid Liabilities: Financial Deposits)** | | | | | | | |
| | **OLS** | **LAD** | **Q 0.1** | **Q 0.25** | **Q 0.50** | **Q 0.75** | **Q 0.90** |
| **Specification 1** | | | | | | | |
| Constant | **0.944*** ** | **0.945*** ** | **0.837*** ** | **0.891*** ** | **0.945*** ** | **1.223*** ** | **1.301*** ** |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Foreign Direct Investment | -0.001 | -0.002 | 0.0009 | -0.0006 | -0.002 | 0.002 | **0.007*** ** |
| | (0.572) | (0.484) | (0.601) | (0.782) | (0.377) | (0.264) | **(0.000)** |
| Trade | 0.0005 | 0.0004 | **-0.0006**** | 0.000 | 0.0004 | **-0.0007**** | 0.000 |
| | (0.142) | (0.547) | **(0.037)** | (0.827) | (0.323) | **(0.037)** | (0.781) |
| Economic Prosperity | 0.001 | 0.0002 | **0.008*** ** | 0.001 | 0.0002 | **-0.004*** | **-0.009*** ** |
| | (0.622) | (0.957) | **(0.000)** | (0.654) | (0.952) | **(0.093)** | **(0.000)** |
| Inflation | **-0.000*** | -0.000 | -0.000 | -0.000 | -0.000 | -0.000 | **-0.000**** |
| | **(0.059)** | (0.917) | (0.880) | (0.487) | (0.287) | (0.274) | **(0.015)** |
| Population growth | **-0.271*** ** | **-0.272*** ** | **-0.282*** ** | **-0.275*** ** | **-0.272*** ** | **-0.312*** ** | **-0.330*** ** |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Observations | 210 | 210 | 210 | 210 | 210 | 210 | 210 |
| **Specification 2** | | | | | | | |
| Constant | **0.229*** ** | **0.154*** ** | **0.126*** ** | **0.112*** ** | **0.154*** ** | **0.217*** ** | **0.293*** ** |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Foreign Direct Investment | -0.003 | 0.000 | **-0.002*** ** | **-0.006*** ** | 0.000 | **0.011*** ** | **0.010**** |
| | (0.256) | (0.990) | **(0.000)** | **(0.004)** | (0.949) | **(0.000)** | **(0.042)** |
| Trade | **0.002*** ** | **0.002*** ** | -0.000 | 0.0004 | **0.002*** ** | **0.003*** ** | **0.003*** ** |
| | **(0.000)** | **(0.000)** | (0.669) | (0.130) | **(0.000)** | **(0.000)** | **(0.000)** |
| Per capita Economic Prosperity | 0.0002 | **0.013*** | **-0.003*** ** | -0.0008 | **0.013*** ** | **0.007*** | 0.007 |
| | (0.951) | **(0.052)** | **(0.000)** | (0.754) | **(0.000)** | **(0.053)** | (0.273) |
| Public Investment | **0.019*** ** | **0.027*** ** | **0.007*** ** | **0.017*** ** | **0.027*** ** | **0.030*** ** | **0.027*** ** |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Development Assistance | **-0.015*** ** | **-0.021*** ** | **-0.001**** | **-0.006*** ** | **-0.021*** ** | **-0.027*** ** | **-0.021*** ** |
| | **(0.000)** | **(0.000)** | **(0.011)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Observations | 210 | 210 | 210 | 210 | 210 | 210 | 210 |

Notes. Dependent variable is the financial depth *,**,***, denote significance levels of 10%, 5% and 1% respectively. Lower quantiles (e.g., Q 0.1) signify nations where financial depth is least. P-values in brackets. OLS: Ordinary Least Squares. LAD: Least Absolute Deviations.

## Table 2: Determinants of Financial Efficiency: OLS, LAD and Quantile Regressions

### Panel A: Banking System Efficiency(Bank credit on Bank deposits)

| | OLS | LAD | Q 0.1 | Q 0.25 | Q 0.50 | Q 0.75 | Q 0.90 |
|---|---|---|---|---|---|---|---|
| | | | | **Specification 1** | | | |
| Constant | **1.116*** ** | **1.054*** ** | **0.771*** ** | **1.062*** ** | **1.054*** ** | **1.238*** ** | **1.603*** ** |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Foreign Direct Investment | **-0.013*** ** | **-0.012** ** | **-0.017*** ** | **-0.017*** ** | **-0.012*** ** | **-0.015*** ** | **-0.019*** ** |
| | **(0.000)** | **(0.026)** | **(0.000)** | **(0.000)** | **(0.004)** | **(0.000)** | **(0.005)** |
| Trade | **-0.001*** ** | -0.000 | **-0.002*** ** | **-0.001*** ** | -0.0009 | -0.001 | -0.001 |
| | **(0.001)** | (0.245) | **(0.004)** | **(0.007)** | (0.135) | (0.100) | (0.234) |
| Economic Prosperity | **-0.017*** ** | **-0.017*** ** | -0.0006 | -0.003 | **-0.017*** ** | **-0.021*** ** | **-0.028*** ** |
| | **(0.000)** | **(0.008)** | (0.913) | (0.489) | **(0.000)** | **(0.000)** | **(0.000)** |
| Inflation | -0.000 | -0.000 | -0.000 | -0.000 | -0.000 | -0.000 | -0.000 |
| | (0.294) | (0.914) | (0.973) | (0.739) | (0.319) | (0.203) | (0.304) |
| Population growth | **-0.071*** ** | **-0.072** ** | **-0.064*** | **-0.139*** ** | **-0.072** ** | **-0.078*** ** | **-0.145*** ** |
| | **(0.003)** | **(0.022)** | **(0.053)** | **(0.000)** | **(0.010)** | **(0.008)** | **(0.001)** |
| Observations | 210 | 210 | 210 | 210 | 210 | 210 | 210 |
| | | | | **Specification 2** | | | |
| Constant | **1.022*** ** | **0.935*** ** | **0.688*** ** | **0.874*** ** | **0.935*** ** | **1.187*** ** | **1.488*** ** |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Foreign Direct Investment | **-0.010*** ** | **-0.017*** ** | **-0.011** ** | **-0.013*** ** | **-0.017*** ** | **-0.009*** | **0.009*** |
| | **(0.004)** | **(0.000)** | **(0.031)** | **(0.000)** | **(0.000)** | **(0.071)** | **(0.068)** |
| Trade | **-0.001*** ** | -0.0005 | **-0.002*** ** | **-0.001*** ** | -0.000 | **-0.001** ** | **-0.004*** ** |
| | **(0.000)** | (0.460) | **(0.000)** | **(0.000)** | (0.339) | **(0.048)** | **(0.000)** |
| Per capita Economic Prosperity | **-0.013*** ** | **-0.022*** ** | -0.002 | **-0.011** ** | **-0.022*** ** | **-0.013** ** | -0.009 |
| | **(0.002)** | **(0.003)** | (0.752) | **(0.012)** | **(0.000)** | **(0.041)** | (0.131) |
| Public Investment | -0.004 | -0.005 | 0.004 | -0.003 | -0.005 | **-0.014** ** | -0.007 |
| | (0.365) | (0.440) | (0.512) | (0.474) | (0.250) | **(0.037)** | (0.242) |
| Development Assistance | **-0.011**** | **-0.007** ** | **-0.012*** ** | **-0.010*** ** | **-0.007*** ** | **-0.006*** | **-0.017*** ** |
| | **(0.000)** | **(0.046)** | **(0.000)** | **(0.000)** | **(0.005)** | **(0.062)** | **(0.000)** |
| Observations | 210 | 210 | 210 | 210 | 210 | 210 | 210 |

### Panel B: Financial System Efficiency(Financial credit on Financial deposits)

| | OLS | LAD | Q 0.1 | Q 0.25 | Q 0.50 | Q 0.75 | Q 0.90 |
|---|---|---|---|---|---|---|---|
| | | | | **Specification 1** | | | |
| Constant | **1.672*** ** | **1.072*** ** | **0.725*** ** | **1.032*** ** | **1.072*** ** | **1.214*** ** | **3.551*** ** |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Foreign Direct Investment | **-0.014** ** | **-0.013*** ** | **-0.011*** ** | **-0.013*** ** | **-0.013*** ** | **-0.013*** ** | -0.008 |
| | **(0.040)** | **(0.002)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | (0.489) |
| Trade | **-0.004*** ** | -0.001 | **-0.001*** ** | **-0.001*** ** | **-0.001*** | **-0.001*** ** | **-0.005*** ** |
| | **(0.000)** | (0.123) | **(0.000)** | **(0.000)** | **(0.058)** | **(0.000)** | **(0.008)** |
| Economic Prosperity | **-0.022*** ** | **-0.016*** ** | **0.004*** ** | -0.003 | **-0.016*** ** | **-0.022*** ** | -0.020 |
| | **(0.008)** | **(0.004)** | **(0.001)** | (0.321) | **(0.000)** | **(0.000)** | (0.189) |
| Inflation | 0.000 | -0.000 | -0.000 | -0.000 | -0.000 | -0.000 | -0.000 |
| | (0.957) | (0.933) | (0.817) | (0.614) | (0.336) | (0.159) | (0.709) |
| Population growth | **-0.196*** ** | **-0.080*** ** | **-0.077*** ** | **-0.134*** ** | **-0.080*** ** | **-0.064*** ** | **-0.726*** ** |
| | **(0.000)** | **(0.005)** | **(0.000)** | **(0.000)** | **(0.001)** | **(0.001)** | **(0.000)** |
| Observations | 210 | 210 | 210 | 210 | 210 | 210 | 210 |
| | | | | **Specification 2** | | | |
| Constant | **1.348*** ** | **0.937*** ** | **0.687*** ** | **0.899*** ** | **0.937*** ** | **1.106*** ** | **2.853*** ** |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Foreign Direct Investment | **-0.010** | **-0.017*** ** | **-0.005*** ** | **-0.015*** ** | **-0.017*** ** | **-0.009** ** | 0.018 |
| | **(0.153)** | **(0.000)** | **(0.002)** | **(0.001)** | **(0.000)** | **(0.020)** | (0.148) |
| Trade | **-0.003*** ** | -0.000 | **-0.002*** ** | **-0.001** ** | -0.000 | **-0.001** ** | **-0.011*** ** |
| | **(0.000)** | (0.442) | **(0.000)** | **(0.011)** | (0.397) | **(0.011)** | **(0.000)** |
| Per capita Economic Prosperity | **-0.015*** | **-0.021*** ** | -0.003 | **-0.013** ** | **-0.021*** ** | **-0.011** ** | -0.016 |
| | **(0.078)** | **(0.000)** | (0.131) | **(0.020)** | **(0.000)** | **(0.019)** | (0.304) |
| Public Investment | -0.007 | -0.004 | 0.003 | -0.005 | -0.004 | **-0.011** ** | -0.014 |
| | (0.427) | (0.538) | (0.162) | (0.383) | (0.386) | **(0.023)** | (0.403) |
| Development Assistance | **-0.023*** ** | **-0.007** ** | **-0.012*** ** | **-0.011*** ** | **-0.007*** ** | **-0.005** ** | **-0.053*** ** |
| | **(0.000)** | **(0.027)** | **(0.000)** | **(0.000)** | **(0.003)** | **(0.048)** | **(0.000)** |
| Observations | 210 | 210 | 210 | 210 | 210 | 210 | 210 |

Notes. Dependent variable is financial efficiency *,**,***, denote significance levels of 10%, 5% and 1% respectively. Lower quantiles (e.g., Q 0.1) signify nations where financial efficiency is least. P-values in brackets. OLS: Ordinary Least Squares. LAD: Least Absolute Deviations.

## Table 3: Determinants of Financial Activity : OLS, LAD and Quantile Regressions

**Panel A: Banking System Activity(Private credit from deposit banks)**

| | OLS | LAD | Q 0.1 | Q 0.25 | Q 0.50 | Q 0.75 | Q 0.90 |
|---|---|---|---|---|---|---|---|
| | | | | **Specification 1** | | | |
| Constant | **0.890***** | **0.881***** | **0.257***** | **0.768***** | **0.881***** | **1.016***** | **1.069***** |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Foreign Direct Investment | -0.002 | -0.003 | **-0.004***** | **-0.004**** | **-0.003*** | -0.003 | **-0.004***** |
| | (0.233) | (0.184) | **(0.000)** | **(0.026)** | **(0.100)** | (0.182) | **(0.004)** |
| Trade | **-0.001***** | -0.000 | -0.000 | **-0.001***** | **-0.0008**** | **-0.0009**** | **-0.0004**** |
| | **(0.000)** | (0.158) | (0.147) | **(0.000)** | **(0.017)** | **(0.011)** | **(0.039)** |
| Economic Prosperity | -0.001 | -0.003 | -0.001 | 0.001 | -0.003 | **-0.005*** | **-0.011***** |
| | (0.483) | (0.168) | (0.254) | (0.652) | (0.191) | **(0.078)** | **(0.000)** |
| Inflation | -0.000 | -0.000 | -0.000 | 0.000 | -0.000 | -0.000 | -0.000 |
| | (0.977) | (0.979) | (0.740) | (0.845) | (0.775) | (0.570) | (0.113) |
| Population growth | **-0.223***** | **-0.235***** | **-0.060***** | **-0.213***** | **-0.235***** | **-0.258***** | **-0.252***** |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Observations | 210 | 210 | 210 | 210 | 210 | 210 | 210 |
| | | | | **Specification 2** | | | |
| Constant | **0.352***** | **0.164***** | **0.154***** | **0.157***** | **0.164***** | **0.366***** | **0.591***** |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Foreign Direct Investment | -0.003 | -0.006 | **-0.003***** | **-0.005***** | **-0.006***** | **-0.007**** | -0.003 |
| | (0.247) | (0.217) | **(0.000)** | **(0.001)** | **(0.000)** | **(0.046)** | (0.196) |
| Trade | -0.000 | 0.000 | **-0.0003***** | -0.0002 | **0.0006***** | 0.0007 | **0.001***** |
| | (0.413) | (0.184) | **(0.000)** | (0.229) | **(0.000)** | (0.139) | **(0.000)** |
| Per capita Economic Prosperity | -0.000 | 0.003 | **-0.005***** | **-0.006***** | **0.003*** | **0.010**** | 0.002 |
| | (0.906) | (0.448) | **(0.000)** | **(0.002)** | **(0.050)** | **(0.019)** | (0.324) |
| Public Investment | **0.010***** | **0.018***** | **0.004***** | **0.014***** | **0.018***** | **0.015***** | -0.001 |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | (0.519) |
| Development Assistance | **-0.015***** | **-0.013***** | **-0.007***** | **-0.009***** | **-0.013***** | **-0.021***** | **-0.015***** |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Observations | 210 | 210 | 210 | 210 | 210 | 210 | 210 |

**Panel B: Financial System Activity(Private credit from deposit banks and OFIs)**

| | OLS | LAD | Q 0.1 | Q 0.25 | Q 0.50 | Q 0.75 | Q 0.90 |
|---|---|---|---|---|---|---|---|
| | | | | **Specification 1** | | | |
| Constant | **1.186***** | **0.860***** | **0.325***** | **0.816***** | **0.860***** | **1.073***** | **1.871***** |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Foreign Direct Investment | -0.002 | -0.003 | **-0.005***** | **-0.005***** | **-0.003*** | -0.003 | -0.005 |
| | (0.484) | (0.165) | **(0.000)** | **(0.001)** | **(0.063)** | (0.185) | (0.459) |
| Trade | **-0.002***** | -0.000 | **-0.0001*** | **-0.001***** | **-0.0006**** | **-0.001***** | -0.001 |
| | **(0.000)** | (0.153) | **(0.072)** | **(0.000)** | **(0.023)** | **(0.001)** | (0.222) |
| Economic Prosperity | -0.005 | **-0.004*** | -0.001 | 0.0009 | **-0.004*** | **-0.006**** | -0.012 |
| | (0.271) | **(0.091)** | (0.112) | (0.663) | **(0.077)** | **(0.048)** | (0.150) |
| Inflation | 0.000 | -0.000 | -0.000 | 0.000 | -0.000 | -0.000 | -0.000 |
| | (0.700) | (0.970) | (0.475) | (0.843) | (0.681) | (0.708) | (0.697) |
| Population growth | **-0.292***** | **-0.229***** | **-0.082***** | **-0.228***** | **-0.229***** | **-0.267***** | **-0.484***** |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Observations | 210 | 210 | 210 | 210 | 210 | 210 | 210 |
| | | | | **Specification 2** | | | |
| Constant | **0.522***** | **0.164***** | **0.110***** | **0.155***** | **0.164***** | **0.402***** | **1.346***** |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Foreign Direct Investment | -0.002 | -0.006 | **-0.004***** | **-0.005***** | **-0.006***** | **-0.005*** | 0.006 |
| | (0.549) | (0.203) | **(0.000)** | **(0.001)** | **(0.000)** | **(0.059)** | (0.273) |
| Trade | -0.001 | **0.001*** | 0.000 | -0.0002 | **0.001***** | 0.0005 | **-0.004***** |
| | (0.106) | **(0.055)** | (0.044) | (0.415) | **(0.000)** | (0.124) | **(0.000)** |
| Per capita Economic Prosperity | -0.001 | 0.005 | **-0.006***** | **-0.006***** | **0.005***** | 0.004 | **-0.012*** |
| | (0.764) | (0.324) | **(0.000)** | **(0.004)** | **(0.003)** | (0.215) | **(0.083)** |
| Public Investment | 0.008 | **0.018***** | **0.005***** | **0.014***** | **0.018***** | **0.014***** | 0.0009 |
| | (0.141) | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | (0.900) |
| Development Assistance | **-0.022***** | **-0.015***** | **-0.005***** | **-0.008***** | **-0.015***** | **-0.020***** | **-0.034***** |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Observations | 210 | 210 | 210 | 210 | 210 | 210 | 210 |

Notes. Dependent variable is financial activity *,**,***, denote significance levels of 10%, 5% and 1% respectively. Lower quantiles (e.g., Q 0.1) signify nations where financial activity is least. OFIs: Other Financial Institutions. P-values in brackets. OLS: Ordinary Least Squares. LAD: Least Absolute Deviations.

Findings in Table 3 relative to financial activity do not confirm the research hypothesis too. This assertion is also valid across specifications and panels: banking system activity(Panel A) and financial system activity(Panel B). The negative sign implies financial globalization decreases the amount of private credit allocated to economic operators(or agents) by domestic banks(Panel A) and institutions in the financial system(Panel B). A logical explanation for this negative relationship is that, with financial globalization foreign banks have a comparative advantage in the service sector, thus decreasing the proportion of private credit from domestic banks(Asongu, 2010).

**Table 4: Determinants of Financial Size: OLS, LAD and Quantile Regressions**

| | Financial Size | | | | | | |
|---|---|---|---|---|---|---|---|
| | **OLS** | **LAD** | **Q 0.1** | **Q 0.25** | **Q 0.50** | **Q 0.75** | **Q 0.90** |
| | | | | **Specification 1** | | | |
| Constant | **0.965*** ** | **1.026*** ** | **0.961*** ** | **0.918*** ** | **1.026*** ** | **1.051*** ** | **1.056*** ** |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Foreign Direct Investment | **-0.012*** ** | **-0.011*** ** | **-0.032*** ** | **-0.017*** ** | **-0.011*** ** | **-0.006*** ** | **-0.001** ** |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.021)** |
| Trade | 0.0004 | 0.0001 | -0.000 | **0.0009*** ** | 0.0001 | -0.0001 | **-0.0004*** ** |
| | (0.301) | (0.653) | (0.931) | **(0.005)** | (0.651) | (0.542) | **(0.000)** |
| Economic Prosperity | 0.003 | 0.003 | 0.013 | 0.003 | 0.003 | -0.0007 | 0.0005 |
| | (0.370) | (0.367) | (0.197) | (0.273) | (0.323) | (0.585) | (0.478) |
| Inflation | **-0.0001** ** | -0.0001 | -0.000 | **-0.000** ** | **-0.0001** ** | **-0.0001*** ** | **-0.0001*** ** |
| | **(0.023)** | (0.869) | (0.806) | **(0.016)** | **(0.011)** | **(0.000)** | **(0.000)** |
| Population growth | **-0.079*** ** | **-0.079*** ** | **-0.169*** ** | **-0.101*** ** | **-0.079*** ** | **-0.040*** ** | **-0.020*** ** |
| | **(0.000)** | **(0.000)** | **(0.004)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Observations | 210 | 210 | 210 | 210 | 210 | 210 | 210 |
| | | | | **Specification 2** | | | |
| Constant | **0.809*** ** | **0.894*** ** | **0.810*** ** | **0.823*** ** | **0.894*** ** | **0.960*** ** | **0.988*** ** |
| | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** | **(0.000)** |
| Foreign Direct Investment | **-0.011*** ** | -0.006 | **-0.017*** ** | **-0.017*** ** | **-0.006** ** | **-0.005*** ** | **-0.004*** ** |
| | **(0.000)** | (0.315) | **(0.000)** | **(0.000)** | **(0.028)** | **(0.000)** | **(0.000)** |
| Trade | 0.0006 | 0.0002 | 0.0004 | 0.0006 | 0.0002 | 0.000 | -0.0001 |
| | (0.128) | (0.753) | (0.333) | (0.283) | (0.591) | (0.845) | (0.272) |
| Per capita Economic Prosperity | 0.002 | 0.0003 | 0.0002 | -0.0007 | 0.0003 | 0.0004 | 0.001 |
| | (0.452) | (0.937) | (0.954) | (0.891) | (0.920) | (0.785) | (0.329) |
| Public Investment | 0.001 | -0.001 | -0.004 | -0.0003 | -0.001 | 0.001 | **0.002*** |
| | (0.634) | (0.810) | (0.301) | (0.946) | (0.722) | (0.271) | **(0.087)** |
| Development Assistance | **-0.005*** ** | -0.004 | **-0.027*** ** | **-0.016*** ** | **-0.004** ** | **-0.002*** ** | 0.0002 |
| | **(0.005)** | (0.389) | **(0.000)** | **(0.000)** | **(0.021)** | **(0.004)** | (0.681) |
| Observations | 210 | 210 | 210 | 210 | 210 | 210 | 210 |

Notes. Dependent variable is the financial size *,**,***, denote significance levels of 10%, 5% and 1% respectively. Lower quantiles (e.g., Q 0.1) signify nations where financial size is least. P-values in brackets. OLS: Ordinary Least Squares. LAD: Least Absolute Deviations.

Table 4 results appear to validate the research hypothesis. Though the effect of financial liberalization bears a negative relationship with domestic financial system size, the negative

effect appears to decrease across the distributions(from lower to higher quantiles): consistent across specifications. Therefore domestic financial system size matters in the benefits of financial globalization; as the negative magnitude is more pronounced in countries with smaller financial sizes(lower quantiles).

### 5.2 Discussion and policy recommendation

Before delving into the discussion of financial development thresholds, it is imperative to reconsider the hypotheses and intuitions motivation this analysis. A major debate is that there seem to be certain 'threshold' levels of financial and institutional developments that an economy needs to attain before it can get full benefits and reduce the risks of capital account liberalization. It has generally been framed that industrial countries which typically have better institutions, more stable macroeconomic policies and deeper financial markets than developing countries have been the main beneficiaries of financial globalization. This has led many authors to argue that developing countries should focus on institutional capacity building and strengthening of their financial markers before opening-up their capital accounts(Rodrik & Subramanian, 2009). How to balance these considerations against the potential benefits to be gained from financial integration is a pressing policy question now that developing countries again are facing the difficult choices of whether and how to liberalize capital account transactions further.

#### *5.2.1 Higher initial levels of financial depth are instrumental in financial globalization*

Kose et al.(2011) find identifiable thresholds in variables such as financial depth and institutional quality in the cost-benefit trade-off from financial openness and allege financial benefits of globalization are substantial once these threshold conditions are satisfied(Kose et al.,2011,1). This positioning in threshold requirements had earlier been emphasized by

Henry(2007) who elucidated why the Indian current account was being opened in a calibrated manner[6]. Our results have confirmed this hypothesis from two main dimensions: financial depth from an overall economic standpoint(money supply) and financial deepening from a financial system perspective(deposits or liquid liabilities).

The relevance of existing levels of deposits(financial depth) points to the importance of the level of domestic savings in the financial globalization process. High domestic savings do not only improve financial depth upon globalization; they also serve as a cushion to external financial shocks in periods of financial crisis. According to Rodrik & Subramanian(2009), economies that have grown more rapidly in terms of investment and growth on the one hand, and affected less by global financial crises on the other hand are those that rely less on capital inflows. This implies economies that have a solid domestic savings base before opening up their capital accounts will benefit more from financial openness.

*5.2.2 Existing levels of financial efficiency and activity do not matter in financial globalization*

In the neoclassical models, liberalizing the capital accounts eases a more efficient international allocation of resources and produces all kinds of salubrious effects. Resources flow from capital abundant developed countries where the return of capital is low, to capital-scare developing countries where the return of capital high. The flow of resources into developing countries reduces the cost of capital, triggering a temporal increase in investment and growth that

[6] "Whereas the Indian current account has been opened fully though gradually in the 1990s, a more calibrated approach has been followed in the opening of the capital account and subsequently the financial sector. This approach is consistent with the weight of available empirical evidence on the benefits of capital account liberalization for acceleration of economic growth, particularly in emerging economies. Evidence suggests that the greatest gains are obtained from openness to foreign direct investment followed by portfolio investment. Benefits resulting from external debt flows are questionable until greater domestic financial market development has taken place (Henry, 2007)".

permanently raises living standards(Fischer, 1998; Obstfeld,1998; Rogoff, 1999; Summers,2000).

While our analysis does not seek to confirm or refute whether higher levels of allocation efficiency and 'finance availability to economic agents' are characteristic of financial globalization, our findings however show that globalization substantially reduces the amount of deposits allocated to economic agents by domestic financial institutions. With this reduction in the amount of private domestic credit in proportion of deposit(savings), the over-liquidity problem is generated. The negative relationship with financial intermediary activity(or credit) confirms the heavy reliance on foreign credit(upon financial liberalization); as opposed to private domestic credit. From a comparative advantage standpoint, these findings which are broadly consistent with recent African finance literature(Asongu,2010; Asongu,2011f ), confirm the relative lack of a comparative advantage in the service(bank) sector by African financial institutions. This assertion subscribes to the alternative strand of the globalization debate which views allocation efficiency as a fanciful attempt to extend the results on the gains from international trade in goods to international trade in assets. The predictions of allocation efficiency stand ground only when the economy suffers from no distortions other than barriers to free capital flows. This further highlights the skeptics' view that owing to many distortions in developing countries, the theoretical predictions of the neoclassical model bear little resemblance to the reality of capital account policy.

*5.2.3 Existing levels of financial size count in financial liberalization*

Financial intermediary size according to our definition reflects the ratio of deposit bank assets on central bank assets plus deposit bank assets. From our findings the negative incidence of financial globalization appears to be decreasing across the distribution. That is, the negative

magnitude decreases as one moves from lower to higher quantiles of the distribution. Thus countries with high initial financial size are more prone to have a less negative effect from capital account openness. This finding could best be explained from Henry(2007) where-in capital account openness must be well calibrated and opened only in tandem with available empirical evidence on domestic financial (size) development.

*5.2.4 Broad policy recommendations*

The Fischer(1997) prophesy on financial globalization and the Dornbusch(1996) declaration that capital-controls is an idea of the past are not broadly justified in terms of financial development benefits to undeveloped countries. This reflects the need for an orderly and well calibrated liberalization of capital movements as were enshrined in the IMF articles before the Fischer(1997) speech. Therefore the decision to move from a closed account regime(where capital may not move freely in and out of the country) and liberalize capital accounts(in which capital can enter and leave at will), should depend on country-specific macroeconomic financial fundamentals and not based on common-blanked policies. These broadly means that if the targeted interest of financial liberalization is directly or indirectly linked to financial development, some initial levels(thresholds) in financial depth and size are important to discount targeted benefits.

We could even be more skeptical and side with Rodrik(1998) in his assertion that, based on our results, 'financial openness effects' on financial efficiency and activity may have no incidence on domestic growth; in line with Asongu(2011a). Implying from financial development and growth standpoints, the theoretical predictions of the neoclassical model bear little resemblance with the reality of capital account policy. Thus financial benefits of open capital account are not really apparent(if they indirectly exist for domestic financial efficiency

and activity). Domestic financial activity and efficiency rewards of financial globalization may hence be indirect or purely speculative. It is therefore time for a new paradigm of globalization, one that recognizes all dynamics of financial intermediary development in the financial benefits of financial liberalization. Depending on the context of sampled countries, the appropriate role of policy has always been either to stem the tide of capital flows or encourage them. Policymakers who have been viewing their challenges exclusively from the later perspective for benefits in development might be getting the financial dynamics badly wrong.

## 6. Conclusion

A major debate in the globalization literature has been that certain 'threshold' levels of financial and institutional developments are necessary for an economy to benefit from capital account liberalization. It has generally been framed that industrial countries which typically have better institutions, more stable macroeconomic policies and deeper financial markets than developing countries have been the main beneficiaries of financial globalization. This has led many authors to argue that developing countries should focus on institutional capacity building and strengthening of their financial markers before opening-up their capital accounts(Rodrik & Subramanian, 2009). How to balance these considerations against the potential benefits to be gained from financial integration is a pressing policy question now that developing countries again are facing the difficult choices of whether and how to liberalize capital account transactions further.

This paper contributes to existing literature by putting some empirical structure on the concept of financial threshold conditions in order to give policymakers guidance on the Kose et al.(2011) and Henry(2007) hypotheses. In framing the financial dimension in a more concrete

and tractable manner, we have probed into the concerns of how financial dynamic initial conditions of depth, efficiency, activity and size play-out in the benefits of financial globalization. In plainer terms we have focused on the financial dimension of the initial conditions debate and assessed if the financial benefits of financial globalization are questionable until greater domestic dynamics of financial development have taken place. The introduction of previously missing financial dimensions into the debate generates a number of important findings: threshold(initial) levels are important for capital openness benefits in financial depth and size, while dynamics of efficiency and activity do not confirm the hypotheses. Depending on the context of sampled countries, the appropriate role of policy has always been either to stem the tide of capital flows or encourage them. Policymakers who have been viewing their challenges exclusively from the later perspective for benefits in growth might be getting the financial dynamics badly wrong.

## Appendices

## Appendix 1: Summary Statistics and Presentation of Countries

**Panel A: Summary Statistics**

| | Variables | Mean | S.D | Min. | Max. | Observations |
|---|---|---|---|---|---|---|
| Financial Development | Economic Financial Depth(M2) | 0.446 | 0.290 | 0.102 | 1.279 | 210 |
| | Financial System Depth(Fdgdp) | 0.383 | 0.267 | 0.054 | 1.054 | 210 |
| | Banking System Efficiency(BcBd) | 0.676 | 0.270 | 0.133 | 1.400 | 210 |
| | Financial System Efficiency(FcFd) | 0.753 | 0.501 | 0.137 | 2.606 | 210 |
| | Banking System Activity(Pcrb) | 0.260 | 0.212 | 0.011 | 0.869 | 210 |
| | Financial System Activity(Pcrbof) | 0.309 | 0.327 | 0.011 | 1.739 | 210 |
| | Financial Size(Dbacba) | 0.789 | 0.208 | 0.110 | 1.052 | 210 |
| Globalization | Financial Openness(FDI) | 3.996 | 5.340 | -4.972 | 40.157 | 210 |
| | Trade Openness(Trade) | 77.636 | 40.871 | 30.044 | 255.01 | 210 |
| Control Variables | Economic Prosperity(GDPg) | 5.018 | 3.719 | -7.617 | 20.613 | 210 |
| | Per capita Economic Prosperity(GDPpcg) | 2.738 | 3.568 | -8.684 | 17.114 | 210 |
| | Population Growth | 2.208 | 0.799 | -1.081 | 3.389 | 210 |
| | Inflation | 32.832 | 287.29 | -2.477 | 4145.1 | 210 |
| | Public Investment | 7.016 | 3.725 | 1.369 | 25.008 | 210 |
| | Development Assistance | 7.915 | 7.735 | -0.251 | 52.823 | 210 |

**Panel B: Presentation of Countries**

Angola, Benin, Cape Verde, Ivory Coast, Egypt, Kenya, Mauritius, Morocco, Mozambique, Senegal, Seychelles, South Africa, Uganda, Zambia, Tanzania

S.D: Standard Deviation. Min: Minimum. Max: Maximum. M2: Money Supply. Fdgdp: Financial deposits(liquid liabilities). BcBd: Bank credit on Bank deposits. FcFd: Financial credit on Financial deposits. Pcrb: Private domestic credit from deposit banks. Pcrbof: Private domestic credit from deposit banks and other financial institutions. Dbacba: Deposit bank assets on central bank assets plus deposit bank assets. FDI: Foreign Direct Investment. GDPg: GDP growth. GDPpcg: GDP per capita growth.

## Appendix 2: Correlation Analysis

| Financial Development Dynamics | | | | | | | Globalization Flows | | Control Variables | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Financial Depth** | | **Financial Efficiency** | | **Financial Activity** | | Fin. Size | Debt | Real | | | | | | | |
| M2 | Fdgdp | BcBd | FcFd | Prcb | Pcrbof | Dbacba | FDIgdp | Trade | GDPg | GDPpcg | Popg | Inflation | PubIvt | NODA | |
| 1.000 | 0.981 | 0.039 | 0.040 | 0.719 | 0.496 | 0.342 | 0.059 | 0.418 | -0.183 | -0.006 | -0.809 | -0.106 | 0.107 | -0.442 | M2 |
| | 1.000 | 0.092 | 0.148 | 0.785 | 0.608 | 0364 | 0.063 | 0.429 | -0.187 | -0.002 | -0.844 | -0.110 | 0.113 | -0.456 | Fdgdp |
| | | 1.000 | 0.860 | 0.583 | 0.644 | 0.505 | -0.388 | -0.304 | -0.262 | -0.239 | -0.129 | -0.160 | -0.261 | -0.320 | Bcbd |
| | | | 1.000 | 0.622 | 0.837 | 0.404 | -0.299 | -0.249 | -0.213 | -0.175 | -0.190 | -0.096 | -0.246 | -0.325 | FcFd |
| | | | | 1.000 | 0.907 | 0.503 | -0.162 | 0.071 | -0.208 | -0.054 | -0.708 | -0.108 | -0.049 | -0.493 | Pcrb |
| | | | | | 1.000 | 0.446 | -0.160 | 0.005 | -0.203 | -0.078 | -0.577 | -0.084 | -0.119 | -0.460 | Pcrbof |
| | | | | | | 1.000 | -0.251 | 0.042 | -0.024 | 0.038 | -0.324 | -0.158 | -0.056 | -0.271 | Dbacba |
| | | | | | | | 1.000 | 0.527 | -0.047 | -0.035 | -0.064 | 0.040 | 0.091 | 0.103 | FDIgdp |
| | | | | | | | | 1.000 | -0.074 | 0.024 | -0.468 | 0.162 | 0.087 | -0.289 | Trade |
| | | | | | | | | | 1.000 | 0.973 | 0.239 | 0.117 | 0.171 | 0.233 | GDPg |
| | | | | | | | | | | 1.000 | 0.020 | 0.104 | 0.184 | 0.144 | GDPpcg |
| | | | | | | | | | | | 1.000 | 0.064 | -0.050 | 0.415 | Popg |
| | | | | | | | | | | | | 1.000 | -0.039 | -0.018 | Inflation |
| | | | | | | | | | | | | | 1.000 | 0.379 | PubIvt. |
| | | | | | | | | | | | | | | 1.000 | NODA |

M2: Money Supply. Fdgdp: Financial deposits(liquid liabilities). BcBd: Bank credit on bank deposits. FcFd: Financial credit on Financial deposits. Pcrb: Private domestic credit from deposit banks. Pcrbof: Private domestic credit from deposit banks and other financial institutions. Dbacba: Deposit bank assets on central bank assets plus deposit bank assets. FDI: Foreign Direct Investment. GDPg: GDP growth. GDPpcg: GDP per capita growth. Popg: Population growth. PubIvt: Public Investment. NODA: Net Official Development Assistance.

## Appendix 3: Variable Definitions

| Variables | Signs | Variable Definitions | Sources |
|---|---|---|---|
| Economic Financial Depth | M2 | Money Supply(% of GDP) | World Bank(FDSD) |
| Financial System Depth | Fdgdp | Liquid Liabilities(% of GDP) | World Bank(FDSD) |
| Banking System Efficiency | BcBd | Bank credit on Bank deposits | World Bank(FDSD) |
| Financial System Efficiency | FcFd | Financial credit on Financial deposits | World Bank(FDSD) |
| Banking System Activity | Prcb | Private domestic credit from deposit banks(% of GDP) | World Bank(FDSD) |
| Financial System Activity | Prcbof | Private domestic credit from financial institutions(% of GDP) | World Bank(FDSD) |
| Financial Size | Dbacba | Deposit bank assets on Central bank assets plus Deposit bank assets | World Bank(FDSD) |
| Financial openness | FDI | Foreign Direct Investment(% of GDP) | World Bank(WDI) |
| Trade openness | Trade | Imports plus Exports in commodities(% of GDP) | World Bank(WDI) |
| Population growth | Popg | Average annual population growth rate | World Bank(WDI) |
| Public Investment | PubIvt | Gross Public Investment(% of GDP) | World Bank(WDI) |
| Inflation | Infl | Consumer Price Index(annual %) | World Bank(WDI) |
| Economic Prosperity | GDPg | GDP Growth(annual %) | World Bank(WDI) |
| Per Capita Economic prosperity | GDPpcg | GDP per capita Growth(annual %) | World Bank(WDI) |

WDI: World Bank Development Indicators. FDSD: Financial Development and Structure Database.

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