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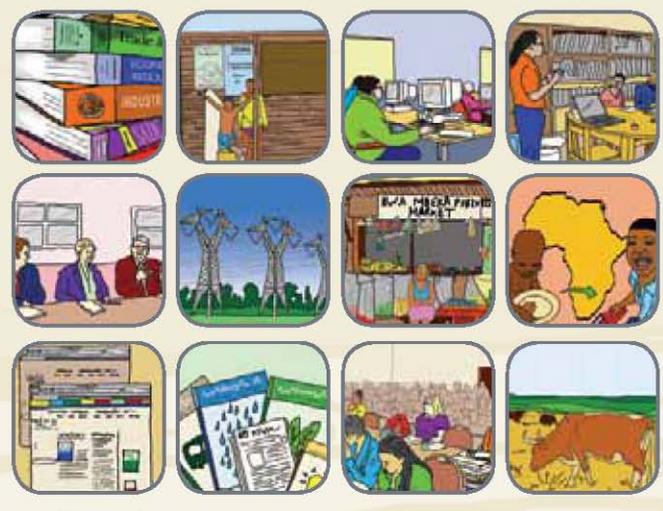
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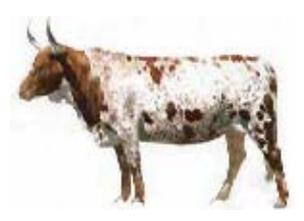


Services Sector Development and Impact on Poverty Thematic Working Group

Services Sector Development in Uganda: An Analysis of the Role of the Financial Services Sector

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December 2009



indigenous growth

SERVICES SECTOR DEVELOPMENT IN UGANDA: AN ANALYSIS OF THE ROLE OF THE FINANCIAL SERVICES SECTOR

FINAL REPORT

BY

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Abstract

This study reviews the reforms undertaken in the financial sector with respect to regulation and access widening policies. The developments at the macro and micro level of the banking system are also assessed. Empirical analysis of the effects of financial liberalisation on growth by augmenting an aggregate production function with different measures of financial liberalisation. To account for the sources of the effects of financial liberalisation on growth, additional empirical analysis was conducted using panel data analysis of bank level data. Bank level data assists in investigating the effect of financial liberalisation on intermediation spreads, non-performing loans and non-financial costs. The empirical findings do not indicate a positive effect of financial liberalisation on growth. However, they suggest that there was improved efficiency among banks. The critical issue for Uganda appears to be that the efficiency improvements may not have been translated into increased credit to the private sector. There are possible policy choices to ensure that financial liberalisation exerts positive knock on effects to output and subsequently poverty reduction. Some of the proposed policies include the reduction of credit risk to banks through information availability via the credit reference bureau, promotion of further competition in the sector through increased bank entry and more robust loan recovery procedures in cases of default.

SUBMITTED TO THE UNIVERSITY OF MAURITIUS JANUARY 2010

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I INTRODUCTION

1.1 Background

Financial liberalization consists of allowing banks and corporations to borrow freely from abroad, removal of controls on lending and borrowing interest rates, allowing foreign investors to hold equity without restrictions and freedom to repatriate capital, dividends and interest. It is generally agreed that countries that liberalize their financial sectors are able to mobilize savings and allocate capital to more productive uses which helps increase the stock of physical capital and improve its productivity. More productive capital in turn results in growth and impacts positively on poverty levels. However, there should be a strong link between financial liberalization and growth and between growth and poverty for financial liberalization to impact positively on poverty. The links between financial liberalization and growth in the literature include the effects of real interest rates, open stock markets and capital accounts on growth. In an environment where investment opportunities are plentiful but the financial system is repressed, the key to higher and more efficient investment is to raise the return to savers i.e. the real interest rate (Arestis and Caner, 2004). Through rising global linkages, capital is able to flow from rich countries to poor countries to earn higher returns. Capital inflows usually result in transfer of technology and managerial know-how, which raises aggregate productivity and increases growth (Prasad et al 2003). In Uganda like many other developing countries these are the factors that tilted the debate in favor of capital account liberalization among others. However, even with the freeing of interest rates, liberalization of exchange rates, easing of entry for foreign banks and liberalization of the capital account, it quickly became evident that more was needed to attain the benefits of liberalization envisaged.

Many lessons have been learnt, for example, it is now evident that the financial sector was liberalized before prudential supervisory regulations had been adequately strengthened (Beck and Hesse, 2006). As a consequence, unsound banks were allowed to enter the financial system and their shortcomings were not expeditiously addressed. The presence of weak institutions increased the cost of intermediation and led eventually to costly bailouts by the central bank. In addition, the presence of asymmetric information and the absence of institutions, adequate accounting standards and credit information agencies which could help alleviate this problem constrained effective competition, resulting in higher margins and interest rates with attendant economic costs. Lastly, there is evidence that in the post liberalization period, micro enterprises and farmers in small rural communities found it more difficult to access services provided by the formal

financial system¹. Previously administered credit allocation schemes that ensured the availability of credit to the agricultural sector were scrapped resulting in a drastic decline in credit to the sector. Many of these developments in Uganda's financial sector allude to some of the potential negative effects of financial liberalization on growth. The effect of financial liberalization on the financial sector, growth and ultimately poverty levels in Uganda is therefore still debatable. This study attempts to evaluate the evidence regarding changes in poverty that are linked to better access to credit and financial services resulting from financial liberalization.

1.2 Statement of the problem

Some have argued and justifiably so, that there have been a number of benefits from the reforms that were effected to improve the financial sector among which were interest rate and exchange rate liberalization, current and capital account liberalization, development of the capital markets, setting up of the Uganda Securities Exchange, the enactment of a new law (Financial Institutions Act, 2004) and respective regulations governing the financial sector and improvement in the supervisory regime through the adoption of risk based supervision (Beck and Hesse 2006, Mugume 2007, Egesa and Abuka 2007). Benefits to the users of financial services have been by way of improved private sector credit, expansion of banking services through creation of new branches, better services arising from the increased competition in the sector, and improved security of depositor's funds following enhanced management of banks and supervisions by the Bank of Uganda. For the providers of financial services, benefits have included improvements in profitability and asset quality (loans and advances).

However, there are still some challenges that have not been fully addressed. Interest rates have remained high, credit to the agricultural sector has stagnated, and intermediation has not improved markedly as was expected as banks continue to hold a large share of assets in form of government treasury bills and bonds. Subsequently, it is still questionable whether the financial sector is fully applying itself to address its roles. It is not clear for instance whether the financial sector efficiently allocates resources mobilized from surplus generating agents to agents facing deficits. The efficient allocation of such resources would have the potential to finance investment resulting in the much-needed employment, which has direct poverty reducing effects. Recent studies on Uganda's banking sector performance by Beck and Hesse (2006), Mugume (2007) and Egesa and Abuka (2007) have suggested that while banks performance has improved from the shareholders point of view, there is still much improvement to be made in respect of the

¹ Kasekende and Atingi-Ego, 1996. Implications of financial sector liberalization on the domestic financial system, AERC.

users of the financial services. This study therefore sets out to establish the net effect of some of the financial liberalization measures on growth and the financial sector.

1.3 Objectives

The main objective of the study is to determine the effect of financial liberalization on growth and to identify which specific financial sector developments can be attributed to the respective growth effects of financial liberalization. The specific objectives the study intends to address include:

- Identifying the effects of financial liberalization on growth.
- Determining financial sector characteristics that can account for the observed effect of financial liberalization on growth.
- Identifying the potential areas where additional reforms could be undertaken to enhance the positive effects of financial liberalization particularly for the poor.

1.4 Significance of the study

This research attempts to address the specific objectives cited above in order to inform policy formulators on the potential complementary reforms that can be pursued in the financial sector to enhance growth. Indeed, it is important to understand what additional reforms could be incorporated in the domestic reform program to remedy some of the observed shortfalls as well as to enhance the benefits. In particular, the study will contribute to the debate on the effects of financial liberalization to Uganda's financial sector and growth by identifying specific benefits or pitfalls to the financial sector on account of liberalization that could account for the corresponding growth effects.

The study is therefore important in terms of crafting strategies for financial services trade reform, negotiations as well as in charting the regional integration agenda going forward. The findings will help to determine whether the pace and form of liberalization will need to be conditioned on the implementation of complementary reforms in other areas as well and, if so, what areas and how. Furthermore, it is important to determine in addition to what areas, with which trading partners deeper integration is desirable and feasible to overcome the problem of smallness. The investigation will also help to determine areas in which Uganda should bind existing openness or pre-commit to future openness in the context of trade negotiations. More importantly, the research will help policy makers to determine what to ask of other countries in terms of improved access to their markets and assistance.

The rest of the paper provides some stylised facts on banks in Uganda in section 2, while section 3 provides literature relating to financial liberalisation, financial sector performance and growth effects. Section 4 outlines the methodological approach and data issues and section 5 presents and discusses the results. A summary of the findings, policy recommendations and conclusion is provided in section 6.

II. STYLIZED FACTS

2.1 Financial Sector reforms

Key policies on financial liberalisation in Uganda started in the late 1980s and accelerated during the 1990s. A number of additional reforms were also undertaken after 2000 to support some of the previous reforms. Key reforms in Uganda can be described by categorizing the reform process in three phases with the first phase from around 1987 – 1991, followed by the 1992-1994 phase and the last phase after 1995. However, we opt for this study, to describe financial sector reforms according to the key intended objective of the reform during the period from 1987 through 2008. These were mainly interest liberalisation, reduction in directed credit, improvements in prudential regulation, privatisation of financial intermediaries, reduction in reserve requirements, liberalisation of securities markets, and pro-competition measures.

The process of interest rate liberalisation started around 1988 with the removal of credit ceilings and raising of interest rates by 10 percent. In the following year, the interest rate policy was revised to ensure that interest rates were adjusted by changes in inflation to result in positive real interest rates. In 1992, an auction-based Treasury bill market was introduced with key interest rates linked to the weighted average of the t-bill rate marking the beginning of the interest rate liberalisation. Eventual full liberalisation of interest rates followed in 1994. Additional reforms undertaken in the more recent period included licensing of primary dealers in 2003, authorized to trade in government securities in the secondary market leading to the discontinuation of the rediscount facility.

The main liberalisation measure aimed at increasing competition in the financial sector was the lowering of entry barriers in 1991. This measure was however short-lived and in 1996, a two (2) year moratorium on licensing of new Banks was put in place. The moratorium was extended in 1997 for an additional two (2) years and was not lifted until 2005. Other developments aimed at fostering competition included the introduction of the shilling inter-bank money market, introduction of the rediscount facility and removal of restrictions on Treasury bill holdings in 1993. In terms of reserve requirements,

commercial banks reserves were increased in 2000 after the episode of collapsing banks in the late 1990's. There was a further increase in the reserve requirements following the introduction of the Financial Institutions Statute in 2004.

Directed credit and credit ceilings were also removed gradually with the initial measure involving the removal of directed credit facilities towards crop finance in 1988. There was a reinstatement of directed credit to coffee farmers through banks in 1991 on the back of adverse terms of trade but was later abandoned due to difficulties in recovering the resources lent. However, directed credit through a donor funded line of credit from the European Union was introduced in the late 1990's to support selected sectors in the economy with initial emphasis on providing financing for enterprises that were engaged in production for export.

Other reforms affecting competition included the reduction of government ownership of banks through the privatisation program. Government divested its stake in Stanbic bank in 1996, Barclays bank in 1998 and Baroda bank in 1999. In addition, in 1998 government sold part of its stake in the largest commercial bank (Uganda Commercial Bank), although due to some technicalities the sale was reversed and the management of UCB was withdrawn from the buyers and taken over by the Bank of Uganda in 1999. However, in 2003 the sale of government shares in UCB was finalised through an acquisition by Stanbic bank with a follow-up Initial Public Offer (IPO) of additional shares undertaken in 2005. Governments remaining shares in Bank of Baroda were also divested in an IPO 2002.

Major legal and regulatory reforms started as early as 1993 with the enactment of the Bank of Uganda Statute 1993 and the Financial Institutions Statute 1993. These enhanced Bank of Uganda's monetary and supervisory authority. In the following year the regulations were prepared and had penalties payable by banks for late or non-submission of returns. In 1999, strict penalties by defiant bank owners on default in regard to bank law were imposed. The Banks Supervision Department of the Bank of Uganda was also expanded and restructured to effectively meet risk-based supervision requirements as well as to reorient bank supervision towards the Basel 1 standards. A review of the Financial Institutions Bill and strengthening of prudential regulations was also conducted in this regard in 2003. The increasing role of micro-finance institutions also prompted the enactment of the micro-finance Deposit Institutions Act in 2003. Following the review of the Financial Institutions' Bill, the new Financial Institutions Act came into place in 2004. Accompanying regulations were issued with effect from 2004.

In the securities market the Capital Market Authority Bill was presented to parliament in 1995 providing a framework for a private sector securities market. In 1996, the board of the Capital Markets Authority was established and in the next year the Uganda Securities Exchange was licensed. In 2004, in addition to the treasury bills, treasury bonds were introduced.

Another important financial sector reform was intended to liberalise the exchange rate. Early efforts towards liberalisation of exchange rates were in 1986 following the adoption of a dual exchange rate system from a fixed exchange rate system. In 1990, the parallel foreign exchange market was legalized. This was followed by the introduction of a foreign exchange auction system in 1992 marking the transition from a fixed exchange rate regime towards a market based exchange rate system. In the next year an inter-bank foreign exchange market was introduced followed by the eventual liberalisation of the current account. The liberalisation of the capital account followed three years later in 1997. The developments in the banking sector were therefore shaped by a series of key financial reforms in addition to the macroeconomic developments.

2.2 Banking sector-level developments

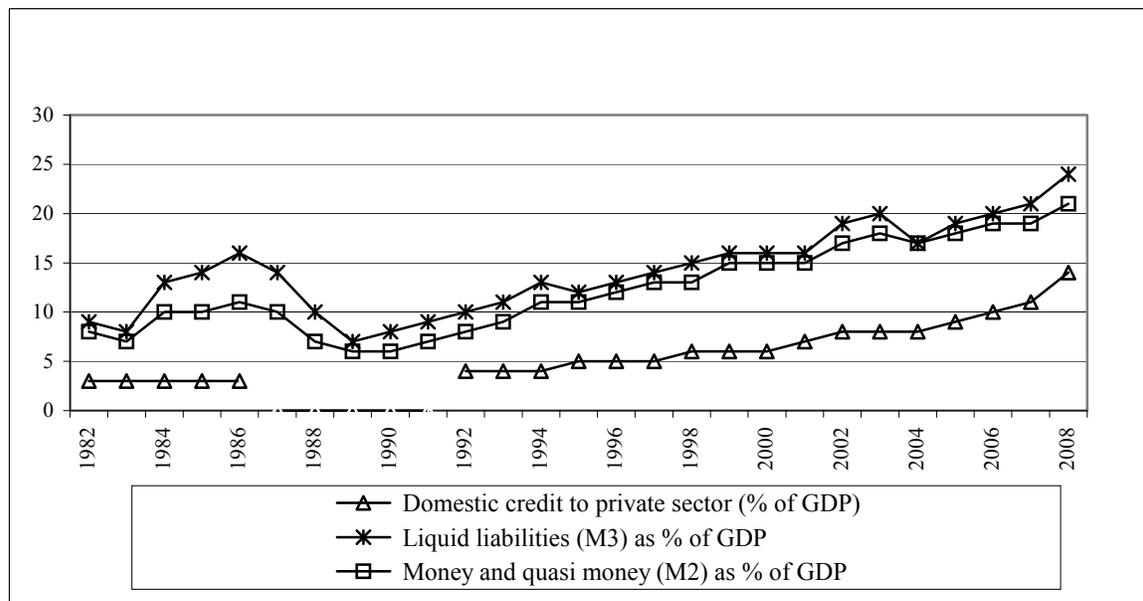
At an aggregate level, the progress of financial development can be assessed by looking at the usual indicators such as ratios of M2 to GDP, M3 to GDP and domestic credit to GDP. The intermediation margins are also important indicators for financial development and availability of credit to the private sector respectively. These indicators should be directly correlated with the levels of financial development. Figure 1 shows the evolution of M2 to GDP, M3 to GDP and domestic credit to GDP during the period 1983 to 2008. Judging from the chart, both M2 to GDP and M3 to GDP have trended together upwards for most of the period. However, there is a marked difference in the trends for the period 1983 to 1990 and the period 1991 to 2008. Initially, large increases in M2 and M3 as shares of GDP from 7 percent and 8 percent to 11 percent and 16 percent respectively occurred between 1983 and 1986. Substantive declines were then recorded during the period 1986 to 1989 to 6 percent and 7 percent respectively from where they have steadily increased. Domestic credit² to the private sector has equally risen from about 3 percent of GDP in 1983 to about 14 percent of GDP. However, it is evident that the pace of domestic credit growth to the private sector has not matched growth in the M2 and M3 shares of GDP. For instance the differences between the M2 and M3 shares of GDP in

² There is missing data on domestic credit between 1986 and 1992 although the trend suggests that growth as a share of GDP has been steady since 1983.

1983 and 2008 are 13 percent and 15 percent respectively compared to a difference over the same period of 11 percent in the share of private sector credit to GDP.

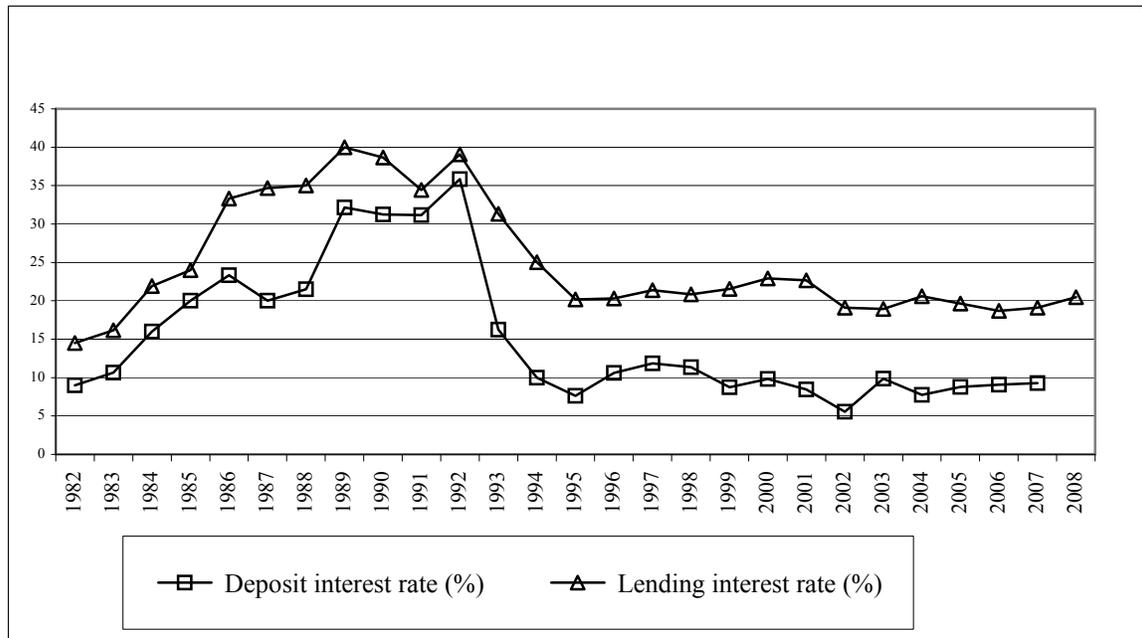
Similarly, deposit and lending rates rose from 9 percent and 15 percent in 1983 to 32 percent and 40 percent in 1989 respectively. The rise in the interest rates was also accompanied by a widening in the spread from 6 percent to a high of 15 percent in 1987. There was a slight reduction in the deposit and lending rates between 1989 and 1991 to 31 percent and 34 percent with the spread reducing to 3 percent. The reduction was briefly offset by development in 1992 after which a permanent reduction occurred to levels of about 8 percent for the deposit rates and 20 percent for the lending rate from 1995. Figure 2 shows the movements in the lending rates.

Figure 1: Evolution of Bank credit, M3 and M2



Sources: World Bank World Development Indicators

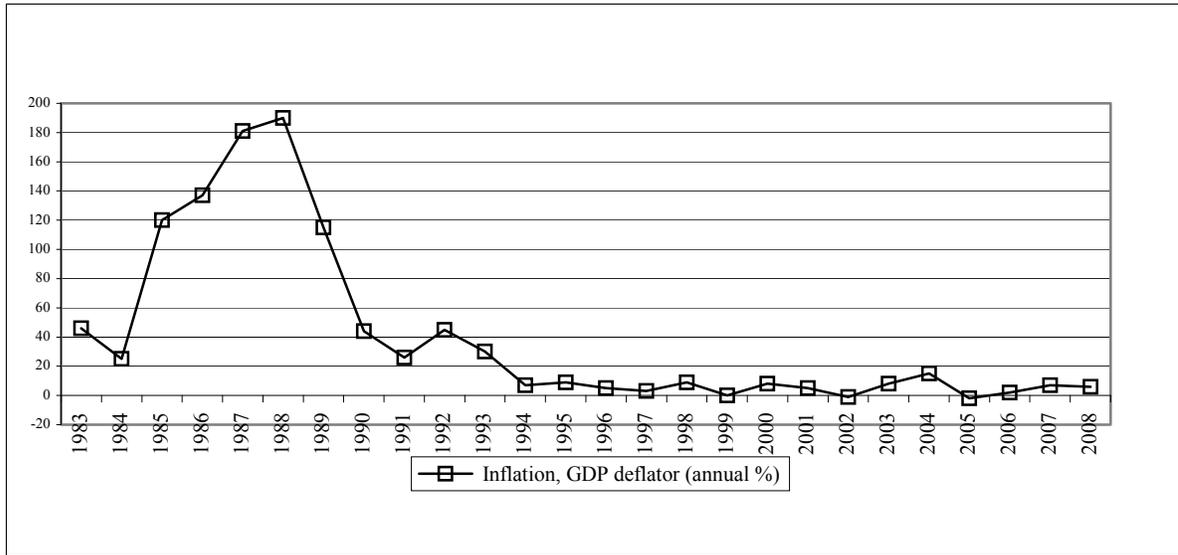
Figure 2: The pattern of deposit and lending rates



Sources: World Bank World Development Indicators

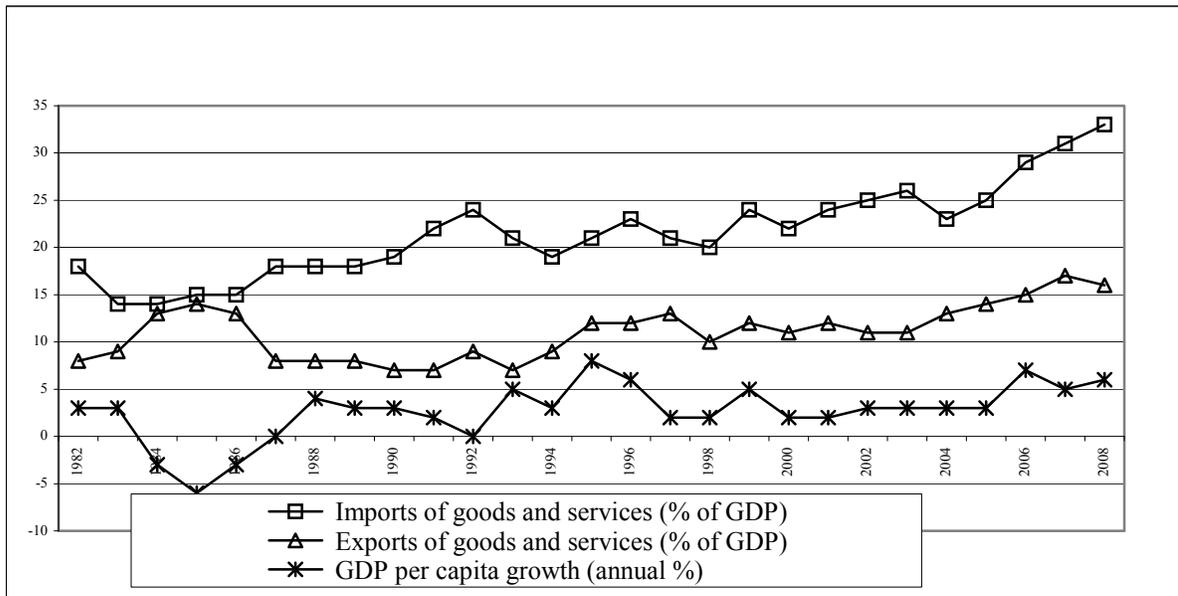
The developments in the monetary aggregates, domestic credit and interest rates are reflected in the inflation developments shown in Figure 3. The period 1983 to 1988 was characterised by a rise in inflation from 25 percent in 1983 to a peak of 190 percent by 1998 driven by excess money supply to finance fiscal expenditures. In the subsequent periods there was a return to discipline as fiscal spending was brought under control and the expansionist monetary policy ceased resulting in a decline in inflation to 26 percent in 1991 and eventually to single digit low levels starting at 7 percent in 1994.

Figure 3: Inflation profile in Uganda



Sources: World Bank World Development Indicators

Figure 4: Per capita GDP, and indicators of openness



Sources: World Bank World Development Indicators

The improvements in inflation, interest rates, domestic credit and monetary aggregates supported turnaround in real output per capita GDP growth from a low of -6 percent in 1985 to 4 percent by 1988. The stable and low single digit inflation along with the rise in domestic credit during the period after 1994 supported high per capita GDP growth of

about 8 percent per annum. There were also positive effects on exports whose share of GDP rose from about 7 percent in 1991 to 13 percent in 1997 lowering the trade deficit from 15 percent of GDP to 9 percent of GDP (see figure 4). However, successive terms of trade shocks as well as increased investment expenditure resulted in a further widening of the trade deficit despite further increases in the export share of GDP to about 17 percent in 2007.

2.3 *Bank-level developments*

The banking sector was by December 2008 comprised of twenty (20) operational banks as at December 2008, matching the 1999 level. However, the size of banks in 2008 was an increase from the fifteen (15) banks that were operational in 1993. In 1993, there were 8 foreign owned banks compared to 6 local banks and 1 state owned bank while in 1999 there were 11 foreign owned banks, 8 local banks and one state owned bank³. By 2008, the number of foreign owned banks had increased to 16 while locally owned banks reduced to four (4) following the closure of 3 banks namely: International Credit Bank, Cooperative Bank and Greenland Bank. The closure of the locally owned banks was due to insolvency on account of large non-performing loan portfolios. During the same period two locally owned banks namely Orient Bank and TransAfrica Bank merged. One foreign owned bank (Trust Bank) was closed in 2000 and Citibank also foreign owned was licensed in 2001. Stanbic bank, which is foreign-owned, acquired the only fully owned state bank, Uganda Commercial Bank (UCB) in 2002 through the privatisation process. Since Uganda Commercial Bank was the largest bank in the country, the acquisition of UCB by Stanbic led to the subsequent transformation of Stanbic bank into the largest commercial bank in the country. There was also one acquisition by Barclays Bank of Nile Bank in 2007 and KCB a foreign owned bank began operations. In 2008, several new banks comprised of Equity Bank, Fina Bank, Global, Housing Finance, and UBA were licensed (details of the branch network and ownership are shown in table 1).

³ Bank ownership is measured in terms of the majority shareholder (%50 percent or more). Banks whose majority shareholders are Ugandans are classified as locally owned banks while those whose majority shareholders are non-Ugandans are classified as foreign owned banks. Going by this classification procedure, there has been little if any change in the ownership structure of banks with the exception of the largest state owned bank, which was privatised through the sale of its shares to an existing foreign owned bank. The state owned bank is however, excluded from the banks whose total factor productivity is measured.

Table 1: Registered commercial banks

No.	Name of institution	Ownership	Number of branches								
			1993	1999	2000	2001	2002	2003	2004	2007	2008
1	Uganda Commercial Bank	State	169	67	67	67	0	0	0	0	0
2	Cooperative bank	Local	23	30	0	0	0	0	0	0	0
3	Gold trust Bank Ltd	Local		5	0	0	0	0	0	0	0
4	Nile Bank Ltd	Foreign	1	3	3	3	3	4	6	0	0
5	Greenland Bank Ltd	Local	3	5	0	0	0	0	0	0	0
6	Allied Bank International	Foreign	4	3	3	3	3	3	4	0	0
7	Centenary Rural Dev. Bank	Local	5	10	10	4	18	20	22	28	32
8	National Bank of Commerce	Foreign	1	2	2	2	2	2	2	2	2
9	Orient bank Ltd	Local	1	2	2	3	6	6	6	7	9
10	Barclays Bank (U) Ltd	Foreign	5	2	2	2	2	5	5	29	53
11	Bank of Baroda (U) Ltd.	Foreign	6	7	7	7	6	6	6	6	8
12	Stanbic Bank	Foreign	1	1	1	2	68	65	68	67	67
13	Standard Chartered Bank	Foreign	1	1	1	5	6	6	6	7	10
14	Tropical Bank	Foreign	3	3	3	3	3	3	3	4	3
15	Crane Bank	Local		2	2	2	2	2	2	7	7
16	Cairo International Bank	Foreign		1	1	1	1	1	1	1	2
17	Diamond Trust Bank	Foreign		1	1	1	1	1	1	2	8
18	International Credit Bank	Local	1	2	0	0	0	0	0	0	0
19	Transafrica Bank	Local		4	4	4	0	0	0	0	0
20	Trust Bank	Foreign		1	0	0	0	0	0	0	0
21	DFCU Bank	Local	3	3	3	4	4	5	7	10	18
22	Citibank	Foreign		0	0	1	1	1	1	1	1
23	Bank of Africa	Foreign								6	10
24	Equity Bank	Foreign									34
25	Fina Bank	Foreign									2
26	Global	Foreign									1
27	HFB	Foreign									4
28	KCB	Foreign								1	7
29	UBA	Foreign									6
Total no. of branches and agencies			227	156	156	129	129	130	130	178	284
Total no. of active banks			15	20	20	17	15	15	15	15	20

Notes: As at end December of each year. International credit bank was closed in 1998, Cooperative bank and Greenland bank were closed in 1999. Purchase of UCBL by Stanbic was completed in 2002 while Orient Bank merged operations with Transafrica bank Ltd.

Source: Bank of Uganda

Overall, the banking system as shown in Table 1 is relatively small (even by African standards), but has undergone substantial expansion in the last two years. The branch network for commercial banks reduced from 169 in 1993 to 156 branches in 1999 and to 130 branches in 2004. The contraction in branch network was mainly due to the closure of Cooperative bank, which had the second largest branch network in the country consisting of 30 branches. However, between 2007 and 2008, there was a rapid expansion of the branch to 284 branches as existing banks opened new branches in a bid to reposition themselves in the financial

market following the entry of new banks. Expansion arising from locally owned banks' branch networks was led by Centenary Rural Development Bank which more than tripled its branches from 10 in 1999 to 32 in 2008 followed by Orient Bank which expanded from 2 branches to 9 branches. Among foreign banks, Barclays had the largest increase from 2 branches in 1999 to 53 branches in 2008. The entry of equity bank after taking over Uganda Micro finance limited (a micro finance deposit taking institution), which had set-up, an impressive branch network also contributed significantly to the rise in the branch network.

Along with the extension of banking services, the health of the banking system improved remarkably following the closure of several distressed banks, substantial improvements in supervision and the introduction of a risk based approach as well as the privatisation of the originally dominant state bank in 2002. The regulatory system has been modernised to international standards with the implementation of the Financial Institutions act in 2004. The strengthening of BOU's supervision⁴ of commercial banks coupled with the restructuring of weak banks helped promote competition in the banking sector. The balance sheets of commercial banks accordingly improved with total assets growing from an average of shillings 668 billion in 1993-96 to an average of shillings 1,228 billion in 1997-99 and to shillings 7,555 billion in 2008.

Table 2: Commercial banks assets and liabilities (Shillings billion)

	Average 1993 - 96	Average 1997 - 99	2000	2001	2002	2003	2004	2005	2006	2007	2008
Assets											
Cash and balances with BoU	78	125	196	238	218	233	345	387	412	518	800
Securities	38	202	332	514	839	886	707	988	1008	1400	1532
Fixed assets	73	91	106	106	110	136	164	203	233	249	376
Due from banks outside Uganda	129	240	377	368	362	640	682	539	710	865	877
Loans & advances to customers	280	419	525	521	661	847	977	1258	1703	2174	3405
Investments	18	69	73	74	48	28	248	12	64	12	1
Other assets	53	82	236	217	218	220	192	302	329	393	564
Total assets	668	1228	1845	2038	2456	2990	3315	3689	4459	5611	7555
Liabilities											
Deposits	356	772	1325	1483	1822	2214	2438	2595	2961	3613	4696
Due to deposit money banks	116	149	77	65	77	47	94	171	225	567	681
Provisions	88	66	63	58	50	47	87	121	154	179	225
Other liabilities	146	150	196	199	241	381	293	369	589	555	807
Capital (excl. profits)	-31	78	106	167	201	203	271	309	394	504	916
Profits	-7	14	78	66	65	98	132	124	136	193	230
Total liabilities and capital	668	1228	1845	2038	2456	2990	3315	3689	4459	5611	7555

Notes: As at end December of each year. The figures from closed banks are excluded from the data. Capital excludes end of year profits and does not consider end of reporting period for individual banks.

Source: Bank of Uganda

⁴ BOU adopted the Basel I banking supervision guidelines and is currently working towards adoption of the Basel II guidelines.

Over the period, securities comprised of mostly treasury bills held by the banking sector have increased immensely since 1993 from an average of shillings 202 billion or 16 percent of total assets in the period 1997-99 to shillings 1,532 billion or 20 percent of total assets in 2008. Other assets such as loans and advances to customers and assets due from banks outside registered significant growth rising from the 1993-96 average of shillings 280 billion and shillings 129 billion to an average of shillings 419 billion and shillings 240 billion in 1997-99 and to shillings 3,405 billion and shillings 877 billion in 2008 respectively. The liabilities registered high growth in respect of deposits from an average of shillings 356 billion (1993-96) to an average of shillings 772 billion in 1997-99 and have since more than quadrupled rising to shillings 4,696 billion in 2008. The aggregate assets and liabilities of commercial banks for the period 1993 to 2008 are as shown in table 2.

The profitability of the sector also improved during the period. In line with the growth in government securities held by the banking sector, interest earned on government securities rose from an average of shillings 6 billion in the 90's to shillings 142 billion in 2008. However, the largest increase was in respect of interest on advances, which rose from the 1993-96 average of shillings 37 billion to an average of shillings 39 billion between 1997 and 1999 and amounted to shillings 494 billion in 2008. The 2008 value of interest on advances also indicates a rising share to total income from 42 percent to about 46 percent during the period.

Table 3: Commercial banks comparative income statement (Shillings billion)

	Average 1993 - 96	Average 1997 - 99	2000	2001	2002	2003	2004	2005	2006	2007	2008
Income											
Interest on advances	37	39	84	89	81	122	158	186	244	312	494
Interest on government securities	5	6	55	88	75	132	128	121	114	126	142
Other interest income	7	8	31	28	12	16	24	35	48	72	91
Total interest income	49	53	170	205	168	270	310	342	405	510	728
Total non interest income	38	41	78	86	93	123	171	168	178	251	340
Total income	86	94	248	291	261	393	481	510	584	761	1067
Expenses											
Total interest expense	-16	-17	-40	-45	-28	-50	-54	-61	-75	-113	-180
Provision for bad debts	-37	-22	-14	-18	-3	-15	-14	-16	-24	-43	-46
Salaries & other staff costs	-31	-31	-50	-57	-64	-73	-86	-99	-116	-145	-219
Other non-interest expense	-29	-30	-69	-90	-101	-157	-195	-158	-135	-208	-300
Total expenses	-113	-100	-173	-210	-196	-295	-349	-334	-350	-509	-745
Net income	-26	-6	75	81	65	98	132	124	136	193	230

Notes: As at end December of each year. Excludes figures from closed banks.

Source: Bank of Uganda

Despite improved profitability, expenses registered an increase from an average of shillings 113 billion in 1993-96 to shillings 349 billion in 2004 doubling to shillings 745 billion in 2008. Salaries and other staff costs more than doubled while a reduction in the provision for bad debts was effected over the period. The rise in total expenses over the period was mainly due to a rise in non-interest expenses from the average of shillings 29 billion in the period 1993-96 to shillings 300 billion in 2008 on account of large investment outlays by banks in modern banking facilities, new branches, ATMs etc. to better cater for their clientele. Table 3 shows the consolidated profit and loss statements of commercial banks.

The developments on the balance sheets and income statements of banks led to improvements in the financial indicators of the banking sector particularly after 1999. The earnings of the sector at an aggregate level as depicted by the ratio of returns on assets (ROA) were quite low prior to 1999 amounting to a mere 1 percent. However, following the closure of insolvent banks in 1999, the ratio improved and had settled at 4 percent by the end of 2008 as banks improved their operational efficiency.

The capital adequacy indicators exhibited a big improvement over the period 1993 to 2008. Specifically, the ratio of core capital to risk weighted assets rose from an average of -41 percent in the period 1993-96 to an average of 8 percent in 1997-99 and 19 percent in 2008. The ratio was highest in 2001 at 21 percent following the re-capitalization of operational banks after the closure of insolvent ones. This period coincided with the rise of minimum unimpaired paid up capital to shillings 2 billion. The decline in this ratio from 21 percent in 2001 to 18 percent and 14 percent in 2002 and 2003 was due to the healthy growth in the total assets by about 1 billion shillings over the same period. These developments are indicated in Table 4.

Trends in indicators of asset quality were largely shaped by the developments in the sector in the period between 1993 and 1999. During this period, the ratio of non-performing assets to total advances of about 38 percent was much higher than the internationally accepted standard of 10 percent. Hyuha and Ddumba-Ssentamu (1994) attributed the rise to the high level to political interference in the determination of loan sizes and interest rates in the state owned bank, which was also the largest bank. Moreover, incidences of insider lending prevalent in private banks at the time equally contributed to the high levels. The ratio however declined in 2000 to 10 percent over the 1999 ratio of 39 percent and has continued to decline to about 2 percent in 2008.

The banking sector generally maintained high liquidity in the 90's with the ratio of liquid assets to deposits averaging 69 percent between 1993 and 1996 increased to 80 percent between 1997 and 1999 and peaking at 88 percent in 2001. The high levels particularly between 1999 and 2001 was partly due to BOU's takeover of the management of UCB and the preference to invest depositors funds in government securities in preparation for privatisation. In the years that followed, banks liquidity decreased gradually to 48 percent as a share of deposits in 2008. This was partly due to increased credit extension but also due to the withdrawal of government project aid account from commercial banks to the Central Bank. Even, then, the level is way above the ideal 17.5 percent which is indicative of the low provision of intermediation services by the sector. This however, can be attributed to banks' high appetite for investment in short-term government securities as opposed to the extension of credit services to the private sector. Nonetheless, there is evidence of improved intermediation from the levels of the 1990's. Table 4 depicts trends in the key financial indicators.

Table 4: Key commercial bank financial ratios and indicators

Indicator	Average 1993 - 96	Average 1997 - 99	2000	2001	2002	2003	2004	2005	2006	2007	2008
<i>Capital adequacy</i>											
Core capital/risk weighted assets (%)	-41	8	17	21	18	14	19	17	16	18	19
Core capital (Shs bn)	-92	53	148	180	195	219	313	348	444	526	892
Paid-up capital (Shs bn)	29	82	67	84	86	86	95	95	120	180	427
<i>Earning ratios</i>											
Return on assets ROA (%)	0	1	4	4	3	4	4	3	3	4	4
Return on equity ROE (%)	-7	14	43	21	18	38	38	29	26	31	25
Liquidity											
Liquid assets to total deposits (%)	69	81	84	88	86	59	63	60	51	47	48
Total advances to total deposits (%)	70	55	39	35	36	35	37	46	55	51	60
<i>Asset quality</i>											
Non performing advances NPA (Shs bn)	98	164	52	34	20	61	21	29	50	89	75
Specific provision (Shs bn)	69	45	26	21	10	39	10	19	21	17	58
NPA to total advances (%)	36	39	10	7	3	7	2	2	3	4	2
Specific provisions to NPA (%)	68	35	51	61	53	63	45	67	41	53	78

Notes: As at end December of each year. The figures from closed banks are excluded from the data. Capital excludes end of year profits and does not consider end of reporting period for individual banks.

Source: Bank of Uganda

III. FINANCIAL LIBERALIZATION, FINANCIAL SECTOR AND GROWTH

Most of the literature on financial liberalization, finance and growth either focuses on financial liberalization effects either tackles its effects on the financial sector or on the economy. In this section, a review of financial liberalization effects literature on the financial sector, growth and poverty is provided.

3.1 Financial Liberalization and Growth

Strahan (2002) summarized the effects of deregulation of restrictions on bank entry and expansion on the real economy of the US. The evidence found suggested that following state-level deregulation of restrictions on branching, state economic growth had accelerated. In addition, the better growth performance was more pronounced in the entrepreneurial sector. Also, macroeconomic stability had improved with interstate deregulation that allowed that banking system to integrate across state lines. The deregulation had reduced the sensitivity of state economies to shocks to their own banks' capital.

Levine et al (1999) evaluated the empirical relation between the level of financial intermediary development and economic growth, total factor productivity growth, physical capital accumulation, and private savings rates. The study used a pure cross-country instrumental variable estimator to extract the exogenous component of financial intermediary development, based on a panel technique that controlled for biases associated with simultaneity and unobserved country-specific effects. After controlling for these potential biases, the study found that financial intermediaries exerted a large, positive impact on total factor productivity growth, which fed through to overall GDP growth and that the long-run links between financial intermediary development and both physical capital growth and private savings rates was tenuous.

François and Shucknecht (2000) explored linkages between financial services trade and growth. Their study offered a formalization of the argument that trade, through the fostering of financial market integration, may yield important long-run effects related to increased competition. The relationships formalized in the study linked long-run economic performance to scale economies and cost structures in the financial services sector, and to market concentration in the sector. An analytical model that motivated the econometric exercise was developed. The subsequent cross-country growth regressions pointed to a strong positive relationship between financial sector competition and financial sector openness, and between growth and financial sector competition.

François (1995) applied an overlapping generations model to examine the dynamic implications of trade in financial services. The model highlighted the role of finance, through capital accumulation, in the growth process. Emphasis was placed on the dynamic relationship between financial intermediation and the evolution of the capital stock. This relationship was found to generate positive implications for the paths of

income and consumption and for the inter-generational distribution of income. The results provided formal support for the argument that liberalizing trade in financial services implied dynamic effects grounded in the basic sources of comparative advantage.

3.2 Financial liberalization and financial sector performance

There are strong arguments made in favor of financial liberalization based on its effects on the availability of credit and financial services to the poor. It is argued that financial liberalization results in financial deepening and better access to credit for previously marginalized borrowers and savers. This is achieved in three steps. First, when reserve requirements are reduced which increases supply of credit. Second, interest rates rise resulting in an increase in savings and bank deposits thereby increasing the amount of funds available for lending. Third, the removal of barriers to entry increases competition among providers motivating banks to widen their outreach to unbanked sections of the population. All of these arguments are based on the notion that financial sector performance improves following financial liberalization. There have been a number of studies investigating the post liberalization performance of the financial services sector (Barajas et al 1999, François and Shucknet 2000, Angelini and Cetorelli 1999, Beck and Hesse 2006 and Beck, Demigurc-Kunt and Levine, 2003). However, the evidence is mixed and varied across different countries.

Beck and Hesse (2006) used a bank-level dataset on the Ugandan banking system over the period 1999 to 2005, to explore the factors behind consistently high interest rate spreads and margins. They noted that while foreign banks charged lower interest rate spreads, there was no robust and economically significant relationship between privatization, foreign bank entry, market structure and banking efficiency all of which are associated with financial liberalization. Similarly, macroeconomic variables could not fully explain the variation in bank spreads. However, they observed that bank-level characteristics, such as bank size, operating costs, and composition of loan portfolio, explained a large proportion of cross-bank, cross-time variation in spreads and margins. Even then, they found time-invariant bank-level fixed effects explained the largest part of the bank variation in spreads and margins. Further, they established tentative evidence that banks targeting the low-end of the market incurred higher costs and therefore higher margins.

Angellini and Cetorelli (1999) analyzed the evolution of competitive conditions in the Italian banking industry using firm-level balance sheet data for the period 1983-1997.

The study found that regulatory reform, large-scale consolidation, and competitive pressure from other European countries had changed substantially the banking environment, with potentially offsetting effects on the overall degree of competition of the banking market. The competitive conditions, which had remained relatively unchanged until 1992 had improved with estimated mark-ups decreasing over the last five years of the sample period. There was also no evidence that banks involved in mergers and acquisitions gained market power; although they exhibited lower than average marginal costs. However, after controlling for various factors that may have determined the time pattern of banks' estimated mark-ups, their study detected a significant unexplained drop in the competitive conditions indicators after 1992. This was explained by the effect of the introduction of the Single Banking License in 1993, which contributed towards improved bank competition.

Jayarathane and Strahan (1996) showed that bank performance improved significantly after bank expansion restrictions were removed. Profits and loan quality improved following state permits for statewide branching and to a smaller extent interstate banking. The improvements on account of branching deregulation were attributed to increased market share at the expense of less efficient rivals. They deduced that through retardation of the natural evolution of the industry, branching restrictions had contributed to reduction in performance of the average banking assets. However, they failed to find ample evidence of improved discipline among bank managers thereby improving performance following increased competition in the banking markets after deregulation.

Barajas et al (1999) used a panel data set of Colombian Banks covering the pre and post liberalization periods to identify effects of liberalization on banking. The study compared the behavior of foreign and domestic banks including the effects of new entry of both types of banks on the banking sector. Their findings showed evidence of benefits from increased entry of both domestic and foreign banks in the Colombian banking system. In particular, they noted that foreign entry played an important role in the behavior of domestic banks as it tended to increase competition, reducing excessive charges and domestic entry had an even greater impact through the lowering of non-financial costs and intermediation spreads. Evidence of positive effects of other elements of liberalization such as the opening of capital accounts and the resulting increase in the ability to borrow offshore was also found as this led to greater competition especially among foreign banks who responded through lowering of intermediation spreads. However, some negative effects were also observed in form of loan quality especially for

domestic banks as competition increased and foreign banks received an increasingly larger share of the quality borrowers.

In this study we follow broadly the literature on the effects of financial liberalization on bank performance by modeling the effect of different financial liberalization indicators on selected measures of financial sector performance. However, to draw the link between the effects of financial liberalization and growth, it is important to depart from the mainstream literature by estimating an aggregate production function augmented with the same measures of financial liberalization to identify their effect on growth, which is then explained, by the observed effects on the different financial sector performance indicators. The intention is to be able to account for the different effects of different financial liberalization reforms on growth using respective observed effects on the financial sector's performance.

IV METHODOLOGY AND DATA DESCRIPTION

To establish the effect of financial liberalization on growth, the aggregate production function is augmented with different measures of financial liberalization. An aggregate production function, which has capital stock and human capital is used. The aggregate production function can be written as:

$$Y_t = A_t (K_t)^{\alpha_1} (Z_t)^{\alpha_2}, \text{ where } Z_t = H_t L_t \quad (1)$$

In this neoclassical model Y denotes output in period t ; A_t is the measure of technology in period t ; K_t denotes total (private and government) physical capital stock in period t , Z_t is labor L_t in period t , augmented by human capital developments H_t . The parameters α_1 , and α_2 denote the elasticities of output with respect to the two types of capital. Under conditions of perfect competition, equation 1 is characterized by constant returns to scale, such that $\alpha_1 + \alpha_2 = 1$. Thus each individual factor of production faces diminishing returns to scale. However, as assumed in endogenous growth models, when there are positive externalities to the economy – stemming from either investment in human capital, (Lucas 1988) or investment in physical capital (Romer 1986) or increased openness to international trade in goods and services (Grossman and Helpman, 1991) - $\alpha_1 + \alpha_2 \geq 1$. The reverse should also be true for negative externalities to the economy such as brain drain.

In lower case specification equation (1) can be written in growth rates as:

$$y = \alpha_0 + \alpha_1 k + \alpha_2 z \quad (2)$$

where a small letter for a variable denotes its growth rate.

However, due to the unavailability of capital stock data for Uganda, some improvising is done to derive an estimatable form of equation (2) following Beddies 1999. Consider the following growth equation for the total capital stock, which is a transformation of the perpetual inventory accumulation equation

$$\frac{\Delta K_t}{K_{t-1}} = \frac{I_t}{K_{t-1}} - \delta \quad (3)$$

where I_t denotes real investment and δ is the rate of depreciation of the total capital stock. Assuming that the capital stock is a constant share of real GDP, that is

$$K = \mu Y \quad (4)$$

where μ is a fixed coefficient for capital stock to GDP, then by rewriting (2) we can obtain

$$y = \alpha'_0 + \alpha'_1 \left[\frac{I_t^p}{Y_{t-1}} \right] + \alpha'_2 z \quad (5)$$

where $\alpha'_0 = (\alpha_0 - \alpha_1 \delta)$, and $\alpha'_1 = \frac{\alpha_1}{\mu}$. Equation (5) can be estimated with available data

on **gross fixed capital formation** for Uganda and **real GDP per capita** used as a measure of investment. The human capital stock is measured by the **labor force**.

An attempt is made to account for possible positive externalities from increased openness to trade in goods and services by augmenting equation 5 with indicators on openness to goods trade and openness to trade in financial services. Equation (5) is therefore rewritten as:

$$y = \alpha'_0 + \alpha'_1 \left[\frac{I_t^p}{Y_{t-1}} \right] + \alpha'_2 z + \alpha_3 libgoods + \alpha_4 libfinservices \quad (6)$$

where *libgoods* is the trade openness indicator and *libfinservices* is the financial liberalization indicator and α_3 and α_4 are the respective coefficients. Because there is no single measure that fully represents the effects of financial liberalization, measures of different aspects of liberalization following Barajas et al (1999) are constructed. The measures include the *share of the number of foreign banks to total number of banks*, *the share of foreign bank assets to total assets*, *net foreign assets of the banks* to account for the effects of the external capital account liberalization and a *dummy variable* equal to 1 from 1997 when the capital account was fully liberalized. For goods liberalization, the *ratio of the sum of exports and imports to GDP* is used.

However, while equation (6) can be used to identify the effects of financial liberalization on growth, it does not offer insights on the effects on the financial sector from which links with growth can be drawn. To address this question, panel data regression analysis is conducted to ascertain the effects of financial liberalization on *non-financial costs* and the *quality of loans*. The specification for the model takes the form

$$x_{it} = \beta_0 + \beta_1 bank_{it} + \beta_2 bsector_t + \beta_3 lib_t + \beta_4 macro + \varepsilon_{it} \quad (7)$$

where x is the dependent variable, *bank* is a vector of bank specific indicators, *bsector* is a vector of banking sector dummies and structure variables, *lib* is a vector of liberalization and entry variables and *macro* is the set of macro economic variables. The parameters β_1 , β_2 , β_3 and β_4 are coefficients of the explanatory variables.

Bank specific variables were constructed for each bank in respect of indicators on administrative efficiency, loan quality and market share. The *ratio of administrative costs to assets* was used to reflect administrative efficiency while the *share of non-performing loans to total loans* was employed as an indicator of loan quality. Market share was derived from the *ratio of each bank's assets to the total assets of all banks*. A banking sector *dummy variable for ownership* was created to indicate which banks were foreign owned during the period.

To capture the effect of liberalization, indicators of *foreign entry*, *private capital inflows to banks* and a *capital account liberalization dummy variable* were constructed. For foreign entry effects, variables for the *share of the number of foreign banks* and the *market share of foreign banks* were constructed. Private capita inflows to banks were derived from the *net foreign assets* flowing to banks during the period as reported in the balance of payments. The macro variables included in the model are similar to those

used by Claessens et al 1998 and Barajas 1999 and include *real GDP growth rate*, *inflation* and the *real deposit interest rate*.

Bank level data obtained from the profit and loss statements and balance sheets of **13 banks** covering the period 1995 through 2008 was used to construct a balanced panel of all banks that were operational over the period.

V. REGRESSION RESULTS

Time series analysis

Before estimation, some issues relating to the properties of the underlying data were verified. Testing for stationarity of the different time series to ensure that the variables used in the regressions were not subject to spurious correlation was done. The Augmented Dickey-Fuller test (ADF) was used to test for unit roots in the data. Table 5 summarizes the results of the stationarity tests for the variables.

Table 5: Unit root test on the variables

Variable	Lag length	ADF Test Statistic
Real GDP per capita growth		
Levels	0	-3.293
Differenced	0	-5.680**
Physical capital stock growth		
Levels	0	-2.245
Differenced	0	-3.870**
Human capital growth		
Levels	3	-2.604
Differenced	1	-1.825*
NFA of banks		
Levels	0	-5.277**
Differenced	--	
Ratio of the no. of foreign banks to total banks		
Levels	0	-0.447
Differenced	0	-2.962*
Exports and imports as share of GDP		
Levels	0	-2.303
Differenced	0	-5.285**

Source: Author's computations

Notes: ** denotes variables stationary at a 5% level of significance and * denotes variables stationary at a 10% level of significance

The tests revealed that all variables except NFA of banks had unit roots. Each variable except for human capital growth was detrended by regressing it on a constant, a time trend and its own significant lags. The human capital variable was detrended by regressing it on a constant and its own significant lags. The residual from the regressions

were then used as the detrended series in the subsequent analysis. The test results for stationarity in the new series are shown in table 6 below.

Table 6. Unit root test for the detrended variables

Variable	Lag length	ADF Test Statistic
Detrended real GDP per capita growth	0	-7.371**
Detrended physical capital stock growth	0	-3.477**
Detrended human capital growth	0	-6.476**
Detrended ratio of the number of foreign banks to total banks	0	-2.962*
Detrended exports and imports as share of GDP	0	-3.937**

Source: Author's computations

Notes: ** denotes variables stationary at a 5% level of significance and * denotes variables stationary at a 10% level of significance

All series were stationary at the 5 percent significance levels except for the detrended ratio of the number of foreign banks to total banks, which was stationary at a 10 percent significance level. Equation (6) was estimated using OLS for the detrended variables. Table 7 below summarizes the results.

Table 7: Regression estimates for real output growth using capital stock accumulation and labour force growth

Physical capital stock growth	0.63** [0.138]	0.62** [0.141]	0.74** [0.136]	0.54** [0.128]	0.54** [0.131]	0.54** [0.145]
Human capital growth	-6.70** [3.092]	-6.86** [3.165]	-9.45** [3.109]	-5.62* [2.796]	-5.72* [2.890]	-5.78* [3.100]
NFA of banks		-0.004 [0.008]			-0.002 [0.008]	-0.002 [0.008]
Ratio of the no. of foreign banks to total banks			-15.36** [7.213]			
Dummy for capital account liberalization				-1.39** [0.586]	-1.36** [0.608]	-1.37** [0.632]
Exports and imports as share of GDP						0.01 0.130
Constant	0.28 [0.312]	0.35 [0.340]	0.19 [0.288]	1.03** [0.420]	1.05** [0.436]	1.05** [0.460]
Number of observation	21	21	21	21	21	21
Adjusted R-Squared	0.56	0.60	0.68	0.65	0.62	0.60
Durbin Watson Statistic	1.635	1.621	2.173	2.31	2.28	2.28
Log likelihood	-35.579	-35.382	-33.096	-35.574	-32.51	-32.51

Source: Author's computations

Notes: ** denotes a significance level of 5% and * denotes a significance level of 10%.

The results showed that physical capital positively affected output as expected and was significant at 5 percent level. However, human capital had a negative effect on output, which was significant at a 5 percent level. The finding in respect of human capital was counter intuitive although it could be a result in part of the very low skill levels as well as productivity for most of the labor force. In terms of the liberalization variables, the net foreign assets of banks had no significant effect on output. However, the coefficient for the dummy variable for capital account liberalization suggested that the opening of the capital account had a negative significant effect on output. The coefficient for the variable indicating the level of foreign bank entry in the banking system (ratio of the number of foreign banks to total banks) was also negative and statistically significant further confirming a negative effect on output growth of financial liberalization efforts aimed at promoting foreign banks entry. It could be the case that these banks found a lucrative alternative of investing in Government securities and a few large prime customers to providing credit to most of the credit constrained private sector thus watering down any possible positive effect on growth. Nonetheless, to concretize the understanding of the effects indicated by the macro level analysis, additional analysis was conducted using micro level data.

Panel data analysis

Regression equations were estimated using bank level data for the micro and macro level determinants of bank performance in respect to the intermediation margins, quality of bank assets and the non-financial costs, which all have a bearing on profitability. The period covered was from 1995 to 2008 and was mainly due to data availability. In the specifications, intermediation margins were modeled as a function of non-performing loans, non-financial costs, market share, lending rates and ownership using bank level data, and foreign bank entry, capital account liberalization, inflation, real GDP growth and NFA using time series data. The share of non-financial costs to assets was modeled as a function of the ratios of administrative costs (mostly wages) to assets, reserve ratio to loans, lending rates and market share to account for bank level effects, a dummy variable equal to 1 for foreign owned banks to account for banking sector structure, the share of the number of foreign banks to the total number of banks/share of foreign bank assets to total bank assets and a dummy variable equal to 1 from 1997 when the capital account was liberalized to account for the effect of liberalization and real GDP, real deposit interest rates and inflation to account for macroeconomic effects. Non-performing assets as a share of total advances was modeled as a function of the ratios of reserves to total assets, lending rates, non-financial costs and market share to account for bank level effects, a dummy variable equal to 1 for foreign owned banks to account for banking

sector structure, the share of the number of foreign banks to the total number of banks/share of foreign bank assets to total bank assets and a dummy variable equal to 1 from 1997 when the capital account was liberalized to account for the effect of liberalization and real GDP, real deposit interest rates and inflation to account for macroeconomic effects.

Before estimation of the models, an examination of the properties of the underlying data was effected. Testing for stationarity of the time series was done to ensure that the variables used in the regressions were not subject to spurious correlation. For the panel data, the Levin, Lin and Chu test was used while the Augmented Dickey Fuller test was used for the macro data. All variables were stationary except for real GDP growth, which was detrended before use in the regressions.

Table 8: Summary of the regression estimates of bank performance determinants

	Intermediation margins		Nonperforming loans		Non-financial costs	
Bank specific indicators						
Non-financial costs/assets	- 0.282**	- 0.281**	-1.617**	-1.651**		
	[0.003]	[0.002]	[0.535]	[0.539]		
Nonperforming loans/advances	- 0.015**	- 0.015**				
	[0.003]	[0.003]				
Wages/assets					1.397**	1.400**
					[0.065]	[0.065]
Reserves/loans			- 0.107**	- 0.106**	0.006**	0.006**
			[0.020]	[0.020]	[0.001]	[0.001]
Market share	0.028**	0.028**	-0.136	-0.132	0.004	0.004
	[0.004]	[0.004]	[0.087]	[0.087]	[0.005]	[0.005]
Lending rates	0.781**	0.784**	-1.625**	-1.681**	- 0.241**	- 0.242**
	[0.046]	[0.046]	[0.816]	[0.823]	[0.051]	[0.052]
Banking sector dummies						
Foreign owned banks	0.004**	0.004**	0.034**	0.034**	0.0001	0.0001
	[0.001]	[0.001]	[0.014]	[0.014]	[0.001]	[0.001]
Foreign entry indicators						
Number of foreign banks/total number of banks		0.035*		-0.389		- 0.021
		[0.017]		[0.285]		[0.018]
Total assets of foreign banks/ total assets of banks	0.0001*		-0.001		- 0.0001*	
	[0.0001]		[0.001]		[0.0001]	
Macroeconomic variables						
Real GDP growth	0.0002	0.0003	-0.002	-0.003	0.0003	0.0002
	[0.0003]	[0.0003]	[0.005]	[0.005]	[0.0003]	[0.0003]
Inflation	0.0001	0.0001	-0.001	-0.001	-0.0001	-0.0001
	[0.0001]	[0.0001]	[0.002]	[0.002]	[0.0001]	[0.0001]
Dummy for capital account liberalization	0.004**	0.004**	-0.090**	-0.090**	-0.003*	-0.003*
	[0.001]	[0.001]	[0.024]	[0.024]	[0.002]	[0.002]
Net foreign assets of banks	0.00001	0.00001	0.00003	0.00001	0.000001	0.000003
	[0.00001]	[0.00001]	[0.0001]	[0.00001]	[0.00001]	[0.00001]
Constant	-0.017**	-0.018**	0.161**	0.165**	0.001	0.001
	[0.002]	[0.002]	[0.037]	[0.037]	[0.003]	[0.003]
Number of observations	169	169	169	169	169	169
Adjusted R-squared	0.85	0.86	0.3	0.31	0.73	0.73
S.E. of regression	0.006	0.006	0.11	0.11	0.005	0.005
F-statistic	94.48	99.06	8.23	8.55	47.27	46.49

Source: Author's computations

Notes: ** denotes a significance level of 5% and * denotes a significance level of 10%.

The liberalization variables for foreign entry (number of foreign banks as a share of the total number of banks and assets of foreign banks as a share of total banking assets) indicate a significant positive effect of liberalization on intermediation spreads. This

implies that that financial liberalization reforms that led to increased entry of foreign banks in the banking sector contributed to increased intermediation spreads. This is consistent with observations prior to 1992 when real interest rates were low and in some years negative, which ceased when, interest rates were liberalized. In addition, the dummy for capital account liberalization also shows a positive significant effect of capital account liberalization on intermediation spreads. However, the NFA of banks indicates that increasing capital inflows did not have a significant effect on intermediation spreads.

The effect of other variables on intermediation spreads suggest that increasing nonfinancial costs contributed to falling intermediation margins. This suggests that an increasing share of banks nonfinancial costs was for purposes of improving efficiency especially in regard to loan recovery making it possible to lower intermediation spreads. However, falling non-performing loans had a significant positive effect on intermediation spreads. This implies that banks reduced their non-performing loans by deterring some borrowers through higher interest rates. This is also confirmed by the positive significant effect of lending rates on intermediation spreads suggesting that deposit rates were not adjusted upwards as lending rates increased. At the bank level, an increasing market share positively contributed to higher intermediation spreads suggesting some oligopolistic tendencies in the banking sector. The dummy for foreign-owned banks indicates that foreign banks contributed to higher intermediation spreads, which implies that they charged higher lending rates or offered lower deposit interest rates. This is to some extent backed by the fact that better capitalized foreign banks relative to local banks are able to offer lower deposit rates but still attract depositors who factor in higher risk associated with less capitalized banks..

For non-performing loans, an increasing share of assets held by foreign banks in the banking system variables led to a decline in non-financial costs. A possible explanation is that since foreign banks usually have sufficient capital, their financial costs are relatively lower as a share of assets compared to local banks. This is also supported by the significant negative effect of capital account liberalization on non-financial costs. Falling lending rates contributed to increasing non-financial costs possibly towards financing of improvements related to loan recovery following increased borrowing.

VI. CONCLUSIONS AND TENTATIVE POLICY ISSUES

At the micro level, the results suggest that financial liberalization led to improved efficiency among banks. However, while the improvement in efficiency may have benefited the banks through increased profitability, there seems to have been no corresponding reduction in intermediation spreads that can be attributed to financial liberalization. This could partly explain why the macro level regression estimates failed to show a positive effect of financial liberalization on per capita GDP growth. It is therefore not possible to conclude that financial liberalization has had a positive effect on poverty reduction through increased per capita GDP growth.

Possible policies aimed at remedying the finding could focus on lowering intermediation spreads. This could be achieved by increasing competition in the credit market by lowering issuance of government securities to limit possible crowding-out effects, and increasing entry into the sector. In addition, the credit reference bureau could be promoted to limit credit risk. Further, policies aimed at improving loan recovery procedures in the event that debtors default may promote increased credit provision.

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