"FINANCIAL LIBERALIZATION AND PERFOMANCE

A STUDY OF KENYAN BANKING INDUSTRY"

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DECLARATION

This research paper is my original work and has not been presented for a degree award in any other University.

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This research paper has been submitted for examination with our approval as University supervisors

Dr. Ngola ..... Date.15/09/04.....

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DEDICATION

I dedicate this paper to my Parents

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LIST OF ABBREVIATIONS

ADF	Augmented Dickey Fuller
AERC	African Economic Research Consortium
BBK	Barclays Bank of Kenya
C.B.K	Central Bank of Kenya
CBS	Central Bureau of Statistics
ECM	Error Correction Model
E-Views	Econometric Views
IMF	International Monetary Fund
K.C.B	Kenya Commercial Bank
LDCS	Less Developed Countries
NBK	National Bank of Kenya
NBFI	Non-Bank Financial Institutions
OLS	Ordinary Least Squares
PP	Phillip Perron
SAPS	Structural Adjustment Program
SCP	Structure-Conduct -Performance
SSA	Sub-Saharan Africa
WB	World Bank

ABSTRACT

This paper examines the empirical relationship between financial liberalization and bank performance in Kenya. The paper also assesses and identifies the various factors that explain commercial bank performance. Time series data covering the period 1973-2002 was analyzed. First, nature and characteristics of the data was assessed. Secondly the time series characteristics of the data was assessed using unit root tests to examine the stationarity of the variables used in the regression. Besides the test for co-integration was performed to determine the long-run relationship of the non-stationary variables. Lastly estimation of the empirical model was done using the Ordinary Least Squares (OLS) method.

The analyzed results show that financial liberalization impacted positively on bank performance. There was an improvement in bank performance following financial deregulation but further financial liberalization still needs to be undertaken. Interest rate spread widened following the reforms. This indicates that the process of financial liberalization was embarked on in an environment of high inflationary pressure, distressed financial system coupled with fiscal indiscipline and fragile institutional framework.

Based on these results, several policy implications are drawn that aim at improving the performance of commercial banks for the benefit of the economy.

The rest of the paper is organized as follows. The first chapter of this paper provides background information on financial liberalization and commercial banking in Kenya. The chapter also traces the statement of the research problem, significance of the study, hypothesis and finalizes with the objectives of the study. Chapter two constitutes the review of all aspects of relevant literature while chapter three comprises the model estimated in this study. Chapter four zeros in on the data issues and empirical estimation while the last chapter presents the conclusions, policy implications, areas of further research and the limitations of study.

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CHAPTER 1

1.0 INTRODUCTION

Government intervention in the running of economies of Sub-Saharan Africa (SSA) countries was pervasive from 1960s through to the early 1980s.The intervention of SSA governments in running of their economies bred inefficiencies and distortions and resulted in misallocation of the resources to the least productive sector. The distortions created in the economy as a result of government intervention and the subsequent dismal performance of the economy in the 1970s and early 1980s led the government of Kenya to adopt World Bank and IMF-backed structural Adjustment Programmes (SAPs) in which the market mechanism is assigned a greater role in the allocation of resources. Among the SAPs was the financial sector reform, which is given prominence among the adjustment programmes given its role as the lubricant of the engine that drives the economy.

In 1980s the government of Kenya commenced an extensive reform of the financial system as part of the Structural Adjustment Programme. Reforms involved liberalizing interest rates promoting a market-based system of credit allocation, enhancing competition and efficiency in the financial system and strengthening the regulatory framework.

Prior to the reforms, Kenyan financial system was highly repressed. It is believed that financial repression characterized by policies of directed credit, ceilings on interest rates and credit expansion and high reserve requirements have caused some imperfection in the operations of the financial markets.

McKinnon (1973) and Shaw (1973) asserted that financial repression policy such as usury restrictions on interest rates, heavy reserve requirements on bank deposit, and compulsory credit allocations, interact with ongoing price inflation to reduce attractiveness of holding claims on domestic banking system.

It is argued that for sustainable growth the banking sector and financial system in general has to be effective and efficient to respond favorably to the needs of productive sector of the economy Kenya therefore adopted financial sector reform as a policy to overcome the problems of financial repression hence vibrancy in the sector and growth of the economy.

The introduction of reforms in financial sector resulted to an increase in the number of banks in the banking industry. However, the results from the reforms in terms of efficiency showed a rise in interest rate spread during the period of reforms. This is a reflection of the inefficiency that has plagued the Kenyan banking industry since the introduction of liberalization policy. The overall analysis of the impact of financial sector reforms on the performance of the banking industry and the overall economy indicates that financial sector reform is yet to achieve its objectives in the Kenyan banking industry.

Against such a background, this paper attempts to study the performance of Kenyan banking industry with a view of looking at the reforms of the financial sector.

1.1 Brief history of banking industry in Kenya.

Development of banking industry in Kenya started with colonization and the influx of foreign banks, due to trade connections between Kenya and India in the late 19th century as trade developed, finance were largely concentrated in international transactions. This stimulated the local economy greatly. Early banks established links with Europeans, South Africa and India business. Local deposit grew mainly from pioneer traders and settlers in Kenya as well as from proceeds of trade in primary commodities. The bulk of these deposits were invested overseas because there were few investment opportunities in Kenya and customers of the bank were not adequately familiar with banking requirements to obtain loan

It was the National Bank of India that pioneered in Kenya in 1896,followed by Standard Bank of South Africa in 1910. For fifty years until the run up to independence in 1963, there were few significant entries in the industry. The fast pace of economic growth in the 1963-72 decade was a boost to the banking sector, which expanded significantly. Other pro-growth factors for the banking and diversification of the sector were; the need for intermediation, Government policies encouraging local participation by relaxing entry requirements, exploitation of loopholes in the regulatory framework that encouraged the growth of NBFIs and the liberalization of the sector After the 1977/78 coffee boom, there was an upsurge in the number of indigenously owned banks and especially NBFIs which totaled over fourty in 1984 as compared to only eight in

1972.This was attributed to the relatively high returns encountered in the financial sector during the early 1980s.

Recent events in the commercial-banking scene have included the collapse of 29 banks between (1984-1996).According to Ngugi (2001) the financial sector faced two major banking crises in the mid 1980s and during the early and late 1990s. Between 1993 and 1996, 6 commercial banks and 12 NBFIs faced insolvency problems. In 1998,five banks were placed under statutory management

1.2 Role of Banks in the Economy

As prime movers of economic life, banks occupy a significant place in the economy of every nation. Policy makers, economists and monetary authorities recognize that the ability of banks to achieve the desired results and continue to play the role set aside for them depends not only on the existence of an enabling (regulatory) environment and the number of operating banks but move importantly on their performance from one financial year to the other. The performance of banks attracts considerable attention from many players in any Economy, especially regulators and monetary authorities. This is because the adverse implications that failures have on the public confidence in the banking system.

Banks largely depend upon public confidence and any indication that a bank may not meet its liability obligations can quickly lead to panic withdrawals. This would consequently lead to suspensions of payment due to inability of the concerned institution to meet liquid demands. This insolvency state of the bank can easily spill over to banks that transaction business with the affected one. Additionally, the banking sector interacts with all other sector of the economy. The sector's performance, therefore may very well be a reflection of the entire economy's performance, and will definitely be of concern to national economic planners.

1.3 Overview of the Banking System in Kenya

The financial market system in Kenya is divided between formal and informal segments, which operate almost independently. In the formal sector there are a few players with branch network,

confined mostly to urban and semi-urban areas. As a result, the bulk of the population that is rural population makes very little use of the formal banking system. It is this locational problem that led to the development of the informal sector. Informal banking system has proved vital over the years for the rural population. It is in the form of traders, relatives and friends, rotating savings and credit associations, welfare associations and moneylenders. Because of the Structural Adjustment Programmes that incorporated financial sector reforms, many structural changes have taken place in the financial sector.

1.4 Structure of the Banking Industry

Banking business is different from financial institutions. Banking business involves receiving funds from the public by accepting demand, time and saving deposits or borrowing from the public or other banks, and using such funds in whole or in part for granting loans, advances and credit facilities and for investing funds by other means. Financial institutions are institutions whose regular business consists of granting loans, advances and credit facilities, and investing funds by other means, and whose business is financed by own or borrowed funds or with funds not acquired by accepting or soliciting deposits from the public. The financial system consists of commercial banks and NBFIs. The NBFIs range from small savings and credit associations to very large financial companies.

This study concentrates on the banking industry in Kenya, and we can divide formal banking system in; Central Bank of Kenya and commercial bank.

1.4.1 Central Bank of Kenya

At the apex of Kenya's financial system is Central Bank of Kenya, which is the central authority in the country. The bank was established by an Act of Parliament in 1966,as a replacement of the former East Africa Currency Board. A decision was made in 1965, that each of the East African States should have its own institution of monetary policy as result of the limited powers of the East African Currency board.

The broad objectives the bank pursues are:

1 Issue legal tender in Kenya

2. Maintain the external reserve and safeguard the international value of the domestic currency
3. Promote monetary stability and a sound financial structure in Kenya.

These principle objectives of the bank constitute its banking functions. Other functions carried out include:

1. Organization and provision of development finance.
2. Development of research and provision of monetary and financial data and statistic on the economy.
3. Development and control of the financial system.

The central bank is both the Government's chief banker and the manager of its domestic debt. Public domestic debt instruments issued and managed by the bank include treasury bills, treasury certificates and government development stocks.

1.4.2 Commercial Banking in Kenya

Kenyan banking system has been dominated by 4 commercial banks Atieno (2001), three of which are among the oldest in the country. In total, there are 43 commercial banks. The main objectives of commercial banking in Kenya involve encouragement of savings and the savings habit creation of channels extending credit. The major functions of the commercial banks include money creation through financial intermediation and provision of various banking and related services. The usual deposit instruments available in the Kenyan commercial banks are savings deposits, fixed term deposits and current account (or demand) deposits.

1.5 Background to Financial Liberalization

The financial systems of most developing nations have come under stress as a result of economic shocks of the 1980s. Besides, Government intervention in running of the economies of these countries from 1960s through to 1980s bred inefficiencies and distortions in financial sector, these resulted to misallocation of resources to the least productive sector. The other causes of inefficiency and distress in the financial sector were the excessive direction of credit and control over interest rates, weak prudential regulation of financial institutions and underdeveloped legal,

accounting and regulatory infrastructures. The most obvious symptoms were the low levels of financial intermediation and resource mobilization coupled with widespread insolvency among financial institutions. This poor state of financial sector contributed to and was in turn affected by macroeconomic mismanagement (High inflation, budget deficits, and overvalued exchange rate) and distortionary policies in other sectors. In view of these problems, most countries, both developed and developing have taken steps to liberalize their financial sectors. Such liberalization represents a policy response, encompassing a package of measures to remove all undesirable state imposed constraints. Before liberalization programs are put in place, the structure of financial system in developing countries is typically noncompetitive. Even though there may be a large number of both banks and non-bank financial institutions, financial assets are concentrated in the banking system. Often as much as 90% of the total financial assets are within the financial system, high concentration ratios are commonly observed and state owned banks are generally dominant. These banks are often inefficient, overstaffed and poorly managed. There is luck of clear direction and incentives for management. Government –imposed directed credit programs often use public financial institutions and destroy their financial soundness. Legal and financial entry barriers exist to prevent the formation of new domestic banks and the entry of foreign banks. The first priority therefore in financial sector reforms is strengthening the banking sector.

Financial sector contribute to the efficiency of the entire economy by spreading information about expectations and efficiently allocating resource from surplus units (savers) to deficit units (investors). The argument is that if the financial sector works efficiently the entire economy will improve in terms of performance. Many African countries have therefore implemented financial sector liberalization programs with the aim of improving macroeconomic performance. This is made possible through reduced inefficiency in the financial sectors. Varying degrees of success with financial liberalization have been reported in some countries, while disappointing results have been reported in others. Countries in the latter category experienced considerable macroeconomic instability, massive capital outflow and widespread bank failures following financial liberalization.

1.6 Statement of the Problem

The contribution of banking industry to economic development and growth of any economy cannot be underestimated. Banks as financial intermediaries play a key role in transforming deposits into financial assets. It is argued that banking industry should be effective and efficient to accelerate the process of economic development. The Kenyan banking system experienced inefficiency between 1960-1970s and this resulted from the control regime imposed by the government in most sectors. Besides, government intervention gave rise to highly concentrated market structures. These consequently negated the important role the banks play in Kenyan economic growth. In view of this problem, Kenyan government shifted from the control model to a more market based system by implementing the financial sector liberalization policy. This policy was expected to open up the financial sector for competition and improve the institutional capacity of financial institutions in development of their commercial operations. These would in the long run improve macroeconomic performance.

In Kenya, liberalization of the financial system is yet to achieve its main objectives. CBK (2002-2003) noted that banking industry is concentrated with 9 of the 43 commercial banks controlling 74% of the total assets of the industry. Besides, these banks increase-lending rates at will and introduce numerous fees and commissions that deplete deposits making savers feel cheated. The banks also offer short-term lending and this is in conflict with national interests which require longer term commitments and better appreciation of the needs of the Kenyan economy. The banks have also excluded a large number of potential borrowers and investors from their services since they concentrate mainly on small corporate clientele.

Despite all the inefficiencies banks have continued recording huge profits. Normally such profits would have triggered more entries of new competitors in the industry. The scenario in Kenya is different, the high profitability in the banking industry has not witnessed entry by new competitors as would be expected. This points to the existence of barrier to entry, which restricts entry and efficiency in the sector.

Our knowledge about bank performance and efficiency in liberalized system in Kenya is limited There is a clear gap in empirical work on whether financial reforms in Kenya have increased performance of the banking industry or not. This study attempts to contribute to the scanty

empirical evidence on the bank performance in Kenya by focusing on the liberalization of the financial sector.

1.7 Justification of Study

The study attempts to give policy direction that may be used by the authorities to rectify the anomalies that have dogged the banking system since many studies have been done on banking but no study has examined banking industry in consideration of the performance and the reforms of the financial sector. Controversies have continually dogged the Bretton Woods institutions drive towards financial liberalization. This paper will provide a useful guideline information to the Bretton Woods institutions on how the liberalization of the financial sector has faired in Kenya. Besides, it is hoped that this study will serve as a starting point to the people wishing to pursue any study on financial sector and banking industry performance in particular. It will also add value to the existing body of knowledge on the Kenyan financial sector. Finally the study will be of great importance to banking industry and policy makers. Liberalization of banking in general has failed in its goal. There is need therefore to assess the impacts of financial sector liberalization and come out with policy recommendations to help this growing industry.

1.8 Hypothesis to be Tested

Ho: Financial liberalization does not explain bank performance in Kenya banking system.

H_1: Financial liberalization explains bank performance in Kenya banking system.

1.9 Objectives of Study

1.9.1 Broad Objective

The general objective of this paper is to examine the empirical relationship between the liberalization of the financial sector and bank performance.

1.9.2 Specific Objective

1. To specify and estimate a model which explains the determinants of the profitability of commercial banks in Kenya.
2. Make policy recommendations based on the finding of the study to improve performance in the banking industry.

CHAPTER 2

2.0 LITERATURE REVIEW

2.1 Theoretical Literature

It took the seminal works of McKinnon (1973) and Shaw (1973) to highlight the adverse effects of financial repression on economic development. Financial repression refers to the distortion of domestic markets through measures such as ceilings on interest rates and credit expansion, selective allocation of credit and high reserve requirements. McKinnon and Shaw pointed out that such misguided policies have damaged the economies of many developing countries by reducing savings and encouraging investment in inefficient and unproductive activities. The standard recommendation is then that positive real interest rates be established on deposits and loans by eliminating interest rate and credit-ceilings, stopping selective credit allocation and lowering reserve requirements. The true scarcity price of capital could then be seen by savers and investors, leading to improved allocative efficiency and faster output growth.

According to Aryeetey et al. (1997) unsatisfied demand for investible funds forces financial intermediaries to ration credit by means other than the interest rate while the informal market develops at uncontrolled rates. Financial repression has led to large differentials between deposits and lending rates of interest Shaw (1973). There is also a tendency for the monetary authorities to set high reserve requirements in less developed countries. As Seck and El Nil (1993) argue, the high spread between lending and deposit rates can be viewed as an implicit tax through high reserve requirements on the banking sector by the monetary authorities. Arguably the legal liquidity reserve form a sizeable loanable fund that the financial institutions could use to expand the size of their loan portfolio. It is likely that the high liquidity requirements encourage crowding out of the private sector, and provide the Government with a buffer of resources to finance deficits (Gibson and Tsakalotos, 1994). In a study of nine African countries, Seck and El Nil (1993) observed that financial repression was prevalent. Real interest rates were virtually negative and high inflation rates and large fiscal deficits characterized the economies The intermediation margins were twice those of the high-income developing countries and industrial countries. Liquidity reserve requirements were in order of 20%-25%, about five times

the average for industrial countries. Aryeetey et al. (1997) observe similar characteristics of financial repression and fragmentation of the financial markets in Ghana, Malawi, Tanzania and Nigeria.

The role of an efficient banking system in economic growth and development lies in savings mobilisation and intermediation. Banks, as financial intermediaries, channel funds from surplus economic units to deficit units to facilitate trade and capital formation (Soyibo and Adekanye, 1992a). As Ncube and Senbet (1994) argued an efficient financial system is critical not only for domestic capital mobilization but also a vehicle for gaining competitive advantage in the global capital markets. For the financial system to be efficient, it must pay depositors favourable rates of interests on loans. The financial intermediation activities in banking involve screening borrowers and monitoring their activities and these enhance efficiency of resource use (Ncube and Senbet, 1994). The authors argue that small investor (depositors) who face costly contracting and asymmetric and imperfect information appoint large financial institutions as delegated monitors in the intermediation process. These financial institutions receive amounts of information from borrowers on which they base the decision to extend a line of credit to industry.

Given the financial characteristic of developing economies,financial liberalisaton is expected to generate positive gains to the Economies if implemented properly. Seck and El Nil (1993) concluded that African countries stand to gain from financial liberalisation because real deposit rates were found to have a positive impact on financial savings, which in turn affects the level of investment positively. However, the design of financial sector reforms is also important As Nissanke (1994) argues, liberalisation programmes need to be realistic about the speed and sequencing of financial reforms. Furthemore for financial liberalization to be successful there should be macroeconomic stability and adequate prudential supervision and regulation of banks.Gibson and Tsakalotos (1994) note that the difficulties faced by many countries in liberalising their financial markets go beyond simply problems of macroeconomic stability. Financial markets are characterised by severe market failures that can lead to a case for government intervention.Diaz-Alejando (1985) argues that liberalization can lead to instability and questions the ability of financial markets to allocate credit efficiently.

Gibson and Tsakalotos (1994) note that the difficulties faced by many countries suggest that liberalization promotes instability. They also argued that the concept of financial repression used in the literature appears too broad, encompassing both positive and negative aspects of the government interventions in the financial markets that may mask the need for institutional development. Furthermore they asserted that competitive pressure that result from conditions of free and competitive pricing will raise the functional efficiency of intermediation by decreasing the spread between deposit and lending rates.

Villanueva and Mirarkho (1990) attributed the less than satisfactory performance of financial liberalisation policies to inappropriate exchange rate and domestic financial policies, weak supervision of the bank lending by the monetary authorities, particularly in the face of the shrinking profitability of the bussiness sector, and large fiscal imbalance that fuel inflation with consequent adverse effects on net investments and efficiency of resource use.

Seck and El Nil (1993) asserts that financial liberalization may not help reduce interest rate spread in African countries if the reduction in reserve requirements and deregulation on the banking sector are not coupled with the increase in competition in the sector. Liberalization opens the way to superior allocation of savings by widening and diversifying the financial markets on which investment opportunity (s) competes for savings flow. The market for savings is extended in terms of scale, maturity and risk, and information for comparisons of alternative facilities becomes available more cheaply (Shaw 1973). Local capital markets can be integrated into a common market, and new opportunities for pooling savings and specialization in investment are created in the economy. Aryeetey et al.(1997) note that in this context, financial liberalization is expected to lead to the diminishing role of the informal financial sector.

Seck and El Nil (1993) concluded that financial repression in African countries is likely to persist because governments have the incentives to perpetuate it given the incidence of high inflation, large budget deficits and limited access to foreign capital. Thus, African countries are likely to face problems in getting their economies out of high inflation rates that justify banks' high intermediation margins, implicit tax and high liquidity reserve requirements to help them finance often large deficits.

The post-Keynesians e.g, Buckett and Dutt (1991) argue that financial liberalisation through raising the real deposit rates may lead to a fall in output and growth, and subsequently to financial instability. A rise in the real deposit rate increases the supply of deposits and hence loans, with the marginal propensity to save increasing. Consequently, aggregate demand and output will fall, with profits and investment also falling in the long run. If accelerator effects of investment are introduced, then the fall in output and growth will be greater.

Raising the real deposit rate results in higher loan rates. The two major problems associated with higher loan rates are summarized in Stiglitz and Weiss (1981). They argue that higher loan rates increase the adverse incentive problem given that firms are tempted to switch to more risky projects. Thus, the banking system may find that raising the loan rate increases the overall riskiness of their portfolio of assets. The second problem is the adverse selection effect. The loan market is distinct by heterogeneity of products with varying probabilities of default. The lender is unable to ascertain a priori which borrower is going to default, hence using the loan rate as a screening device might attract bad risks. In such a situation borrowers who are willing to pay higher loan rates are likely to be less concerned about the prospects of repayment.

The expected boost in savings and investment following financial development has, in a number of developing and transitional countries, not been realised (Mosley, 1999). In many countries financial liberalisation was not accompanied by factors such as degree of fiscal discipline, low inflation and macroeconomic stability, required for a successful outcome (Montiel, 1995). Key institutional reforms have also lagged behind, which further derailed a successful outcome. In some countries there are a number of small banks established supposed to increase competition in the banking sector. It turned out, however that due to insufficient supervision, many countries faced a banking crisis following deregulation of the sector. Lack of institutional development also failed to tackle the problem of market failures and market fragmentation, which further hampered the outcome of the reforms.

In a market where the government sets interest rates and credits ceilings, allocation of resources is inefficient because of uneven credit risk for commercial banks. With interest ceiling however, banks are constrained in charging the appropriate interest rates on loans, and the only option is to

offer minimum possible interest rate on deposits. Furthermore the presence of government owned and controlled banks creates an uncompetitive environment and to some extent makes it difficult to enforce the set regulatory framework, weakening the stability of the banking sector. Government intervention in the financial sector operations also creates highly concentrated market structures in the banking industry leading to monopolistic or oligopolistic market structures. Economic theory predicts different welfare outcomes for different market structures through firms' price and non-price behavior.

Financial reforms emphasize the abolition of interest rate and credit ceilings and the promotion of a competitive environment with reduced government control and ownership. Although achieving competitiveness does not imply nonexistence of an interest rate spread, Ho and Saunders (1981) note that the size of the spread is much higher in non-competitive market, which also calls for strengthening the regulatory and legal work to enhance the stability of the market. Caprio (1996) notes that a weak legal framework, where the courts are not oriented toward prompt enforcement of contracts and property rights are ill defined, increases credit riskiness and banks have no incentive to charge lower rates. Cho (1988) in addition observes that, the liberalisation theory overlooks endogenous constraints to efficient allocation of resources by the banking sector, where in the absence of a well functioning of equities market, efficient allocation of capital is not realised even with financial liberalisation. Fry (1995) explains that in the absence of direct financial markets and equity and bonds market, financial institutions absorbs too much risk, as business enterprises rely excessively on debt financing. Demirgue-Kunt and Huzinga (1997) noted that the interest rate spread fluctuates, reflecting the substitution between debt and equity financing. As the equity market expands, offering competitive returns, banks increase their deposit rates to compete for the funds from the public. The expanded market structure also reduces the risk absorbed by the banking sector and banks charge competitive lending rates, reducing the interest rate margin. Thus, remarks Fry (1995), even in an oligopolistic banking system, there is need for competition from the direct financial market.

2.2 Empirical Literature

Velasco (1991) observed that, the process of financial reform in Chile included institutional, regulatory and international aspects. The institutional aspect involved liberalization of financial sector from the controls by the Government and leaving it with the private sector. Regulatory aspects deal with the administration of the legal framework in an attempt to promote rapid growth and increase competition. Various controls on interest rates and credit were abolished and central bank started paying competitive interest on reserves held by commercial banks so as to help reduce the cost of holding them especially under inflationary conditions. The financial system consequently moved towards multipurpose banking whereby distinction between commercial, investment, mortgage and development activities was abolished with foreign banks allowed to open branches in Chile and purchase Chilean Banks. The process led to financial widening as new regulations increased the powers of bank supervisory agency.

The international reforms dealt with capital flows after the capital inflows in and out of the country. The reform process in Chile led to tremendous expansion of financial intermediation as financial assets of the country rose; consequently domestic debt expanded especially the stock of the non Government sector, which grew from 5% to 61.7% of GDP after the reform process. The financial and real estate sector appeared to be making progress for several years before a major financial crisis developed. By 1981, the financial system was submerged in major crisis with the non-performing assets of banks reaching the level of 22% of capital and reserve ration went upto 47% by the end of 1982 and 113% in May 1983.

King and Levine (1993) carried out a firm-level study to examine the effect of financial liberalization distribution of bank credit among firms of varying degrees of efficiency. The study used firm level data to estimate production functions and then measures each firms technical efficiency by looking at how far it is from the production frontier.The study found that financial liberalization tended to redirect credit to the more efficient firms.

Montiel (1995) observed that, widening spread between lending and deposits rate appear to have been a problem in several sub-saharan African countries that liberalised interest rates during 1980s. He also noted lack of competition as reflected by the burgeoning non-perfoming loans

He noted, that recapitalisation operations have tended to be expensive, recovery of non-performing assets has been poor and restructuring operations have had to be repeated in several cases.

Demiguc-Kunt and Detragiache(1998) studied the empirical relationship between banking crisis and financial liberalisation in a panel of fifty three countries for the period 1980-1995. They found that banking crisis are more likely to occur in liberalised financial systems. However the impact of financial liberalisation on banking sector fragility is weaker where the institutional environment is strong.In particular, respect for the rule of law, a low level of corruption and good contract enforcement are relevant institutional characteristics. They also examined evidence on behaviour of bank franchise values after liberalisation and on the relationship between financial liberalisation, banking crises, financial development and growth. Their results support the view that financial liberalisation should be approached cautiously where the necessary institutions to ensure law and contract enforcement and effective prudential regulation and supervision are not fully developed, even if macroeconomic stabilisation has been realised

Carmen et al (2000) attempted to establish the impact of the process of financial liberalisation on the real interest rate, the spread between deposits and lending and the financial depth of the economy. They looked at a sample of 29 Sub-Saharan countries. Their study covers the period from 1970-1998.Their results showed that financial deepening has not followed financial liberalisation in Africa, as it has in other regions of the world. In addition they concluded that financial liberalisation delivers higher real interest rates (possibly reflecting the allocation of capital towards more productive, return project) and lower investment but not lower growth.

Since very few studies have been conducted in relation to bank performance and liberalisation of the financial sector we review the related studies which mainly focus on bank performance

Long Brake and Hasten (1975) examined the effects of bank size and legal form of organisation on the cost of producing demand deposit services. Servicing demand deposits is one of the more important productive activities of commercial banking – an indicator of performance. Their analysis of the results led to the conclusion that the number of offices operated by commercial banks had little effects on average operating costs per dollar of demand deposits. An increase in

average account size resulted in a substantial decline in average costs in banks belonging to all forms of organisation.

A study by Beighley and McCall (1975) realized a relationship between commercial bank performance and market structure as being of continuing importance to public policy makers and bank regulatory authorities. Unfortunately, results of numerous theoretical and empirical studies that focus on relationships between bank performance and market structure are inconclusive and conflicting. The existence of the incongruities is attributed to the problems of data aggregation, specification of bank product lines, omission of production costs from measures of performance, monopoly power and public welfare.

Soyode (1975) identified and analysed the relationship between profitability and market share in Nigeria commercial banking system and suggested that a vigorous branch network expansion activity may be used as a strategy for acquiring larger market share and hence increased profits. Mbat (1982) in analysing rural banking policy and its implication on policy matters stated that commercial banks in Nigeria have mobilized a large volume of deposits than any other financial intermediaries due to both the territorial spread of their branches and the influence of monetary function on deposit expansion. Teribe (1984) examined competition for banks deposits in Nigeria, and observed a commendable positive response by banks towards mobilising greater volume of deposits. He identified the drive for new branches and locations as evidence of prospecting for deposits by banks. It therefore implies that banks with a large expanded branch network are likely to perform better in terms of deposit growth

Gross (1983) in her study of performance of financial parastatals in Kenya found that the retail banking sector in Kenya was highly concentrated, with only four significant participants; the Kenya Commercial Bank, Barclays Bank of Kenya, Standard Chartered Bank and National bank of Kenya (NBK). In terms of profitability she found that all financial parastatals were profitable.

Using SCP theory to analyse the relationship between bank perfomance and concentraion in Jordian banking system, Civelek-and Al-Alami(1991) noted that there is a statistically significant relationship between concentration and permomance.

Demirguc-Kunt (1999) in their research on bank profitability found that banks with relatively high-non-interest earning assets are less profitable. Ochung (1999) in his study established a very strong correlation between the deposits of banks and financial institutions and their individual performance, on his study between deposit portfolio and bank profitability. He concluded that deposits contribute significantly to the profitability and recommended that banks should undertake to attract deposits at the lowest cost. Margarida and Mendes (2000) in their study found that the loan to asset ratio has a positive impact on interest margin and profitability.
Davaajargal (2000) in his research found a correlation between performing loans and profitability to be negative and statistically significant. He also noted that loans outstanding was one of the factors determining bank profitability hence banks need to increase their lending

2.3 Overview of the Literature

Both theoretical and empirical literature has been reviewed. The Neo-classical structure-conduct-performance (SCP) theory provides the relevant analytical context within which commercial banks performance can be analysed. From the literature reviewed we realized that various theoretical and empirical studies that focus on bank performance market structure and liberalisation are conflicting.

Empirical studies that have been done in both developed and developing countries indicate the important determinants of bank performance as levels of deposits, assets choice of location,loan to asset ratio, market share and liquidity. Different studies have however used measures of bank performance for their analysis Mbat (1982) and Soyobe (1975) used profitability as a measure of performance and their results suggest that branch networking has a bearing on banks' profitability.

Brake and Hasten (1975) used cost of producing demand deposits as a measure of performance and according to their results, the size of bank did not influence bank performance. Most of these studies have used ordinary least squares (OLS) estimation technique and two stage least squares (2SLS). The strength of this study lies in its ability to determine the effects of liberalization on

banks performance (profitabilty) and Structure-Conduct-Performance model will be adopted to suit this study. Our paper uses SCP model to find out whether there is a significant impact on bank performance as a result of financial liberalization by extending the SCP model used in banking to include liberalization. The SCP theory is a tool of analysis in industrial business behavior and is applied in the banking sector in developed countries. Therefore SCP theory used in banking has not been used to study bank behavior in Kenya. This study will therefore serve as the first to use SCP in Kenya.

CHAPTER 3

3.0 RESEARCH METHODOLOGY

3.1 Conceptual framework

The performance of market in attaining objectives such as efficiency depends on the conduct of the participants as well as on concentration. According to Fourer (2001), the concern of government and other interested parties over business concentration stems from the Neo-classical structure-conduct-performance (SCP) theory. According to this theory, market structure influences the conduct or behavior of the market participants which in turn affects the performance of the market. Furthermore it suggests that market concentration lowers the cost of collusion between firms and results in higher than normal profit for all market participants. In many countries SCP theory has led to the adoption of measures aimed at regulating or limiting economic concentration and stimulating competition.

Civelek and Al-Alami (1991) rightly note that the banking industry is very important to the economy and empirical evidence on the SCP relationship can help in government regulatory policies and in modifying the environment in which banks operate. Increased bank concentration, through increasing the cost of credit, has the effect of reducing firms' demand for credit and consequently affects the level of intermediation and retards growth of the economy.

The specification of our model is based on the assumption that certain market structures are conducive to monopolistic conduct and this conduct enables firms to raise prices above cost hence making abnormal profits. Therefore, the link between market structure and profitability is through firms' pricing behaviour. The standard structure performance model is a measure of the profit-concentration relationship and is postulated as:

$\Pi i = f(CR, Xi)$ ..... (1)

The equation (1) above can be written in the form.

$\Pi i = f(CR, ASSETS, LONASSET, DPTDEP, MIREQ, MGR)$ ..... (2)

Where;

Πi= a measure of the performance (profitability) of the i^{th} bank as measured by return on assets

CR= Concentration ratio (The share of bank deposits accounted for by three largest banks)

ASSETS= Commercial bank assets

LONASSET= Loan to assets ratio of commercial banks

DPTDEP= Demand deposits to total deposits ratio of commercial banks

MIREQ = Minimum liquidity requirement

MGR= Annual growth rate of market deposits for the banking industry

3.2 Empirical Model Specification

In order to examine the effects of liberalisation on the performance of the banking industry in Kenya, we include liberalisation (LIB) as explanatory variable for the bank performance. This variable is assumed to be zero pre-liberalisation and equal to one post-liberalisation.

Thus we have;

Πi= f(CR,ASSETS,LONASSET,DPTDEP,MGR, MIREQ).....(3)

From equation (3) we develop the estimatable equation below.

$\Pi_{Dt}=\alpha_0+\alpha_1 Log(CR_t)+\alpha_2 Log(ASSET_{Dt})+\alpha_3 Log(LONASSET_{Dt})+\alpha_4 Log(DPTDEP_{Dt})+\alpha_5 Log(MIREQ_t)+\alpha_6 Log(MGR_t)+\alpha_7 LIB+\varepsilon_t$.....(4)

Where;

t= time period in years

D= Dominant commercial banks

ε= The stochastic error term, captures all the other explanatory variables which may have been omitted from the model.

3.3 Estimation Technique

The simple model specified in equation four above was estimated using ordinary least squares (OLS) method. This technique was applied to annual time series data covering the period 1973-2002.The advantage of this method is that a number of variables can be included and natural logarithm of variables are easy to use in interpretation. Therefore the estimation is based on the

rdinary least squares, single equation method as dictated by the nature of the model and data vailable. The econometric part of the study involves testing for the unit roots using the ADF and 'hillip Perron tests. These are corroborated by graphs of the variables. This is important because according to Granger representation theorem, if the variables of study are intergrated of the ame order i.e greater than zero then there might exist a linear combination of them that is tationary.Having ascertained the order of intergration of the variables, cointegration tests are :arried out.The application of this method help us to deal with the problems encountered when :stimating an equation by the (OLS) method using a non-stationary series (i.e. the data that luctuate along a trend). Most of the economic time series data such as those variables included n the study have such pattern. If the (OLS) is used to estimate a linear equation with a non-stationary data , the results obtained will not fulfil the statistical properties (e.g. absence of serial correlation, stationary data and a white noise error term).

3.4 Data Source and Type

The study uses time series data for the period 1973-2002. The choice of the period of study is based on data availability, taking into consideration the two main periods. Most of the data were taken from various issues of Central Bank of Kenya, Economic survey, Central Bureau of Statistics Statistical abstracts and CBK Website

3.5 Expected Signs

The expected theoretical impacts of the respective fundamentals are as follows.

LCR (+)=The more concentrated the industry the higher the level of profitability

ASSET (?) = The relationship may be positive, reflecting economies of scale, or negative reflecting greater ability to diversify assets, which results in lower risk and lower required returns

LONASSET (+) = This capture the bank risk. It is expected to be positively related to profitability

LDPTDEP (+) = Represent relative cost of funds. The higher the ratio the higher the level of profitability

LMIREQ (-) = Lower profits are expected when the liquidity requirement is increased.

LMGR (?) = Higher profits are expected when a market grows, while lower profits may be expected if the growing market makes entry relatively easy

LIB (?) = In cases where liberalization makes entry easy, we expect to see lower profitability as a result of actual and potential competition, otherwise liberalization can strengthen the monopoly power of existing banks

CHAPTER 4

.0 EMPIRICAL RESULTS

ı time series modeling, data is always given and how it was obtained is beyond the control of ıe analyst. Thus the analyst has to control the modeling process so as to achieve a good pproximation of the data generating process. The analyst is concerned with estimating a model ıat can predict and thus the major question is not how data is handled but whether the model ⁄orks.

'his section describes the nature and characteristics of the data used for estimation. In particular ⁄e consider measure of the central tendency of the variables (Mean, Maximum, minimum, tandard deviation etc), Correlation matrix of the dependent and independent variables and raphical analysis. The section also presents the estimated model results, test for stationarity on ach variable used, the test for cointegration on the residuals of non-stationary series and the stimation results of the empirical model. Diagnostic tests are also carried out

)escriptive Analysis of the Data

'he variables used in this study are as follows

:OA= Return on Assets

_CR= Log of concentration ratio (Oligopolistic nature of the market)

_ONASSET= Log of loan to assets ratio

_ASSETS= Log of Assets

_MGR= Log of annual growth rate of market deposits for the banking industry

_DPTDEP= Log of demand deposits to total deposits ratio

_MIREQ= Log of minimum liquidity requirement ratio

_IB= Dummy variable to capture financial liberalization

The table underneath presents a short description of these variables.

4.1 Summary Statistics of the Variables

Table 4.1 Summary of the variables used in the analysis

Variable	Mean	Standard Deviation	Maximum	Minimum
ROA	2.607800	1.447337	5.2	0.27
LASSETS	10.77	1.47	12.99	8.43
LCR	33.93	5.23	46	27
LMGR	17.08	13.64	54.09	1.01
LDPTDEP	32.5	15.75	100.2	3.45
LIMIREQ	19.0	2.56	25	15
LONASSET	47.58	16.13	112.6	4.43
LIB	0.4	0.49	1	0

Source: Author's calculation

The dependent variable that is the measure of profitability has a mean value of 2.608% as shown in the table 4.1 above. It has a minimum and maximum values are 0.27% and 5.2% respectively while the standard deviation is 1.447%.

Independent Variables

The variable that captures the risk (LONASSET) has a mean value of 47.58%, maximum and minimum values of 112% and 4.43% with standard deviation of 16.13% over the period of analysis.

For assets, that is the variable that takes into account the bank size, it has a mean value of 118611.4 while minimum and maximum values are 4615 and 438567 respectively. Standard deviation is 144949.4 million Kenya shillings.

The variable that measures the oligopolistic nature of the market (CR) has a mean of 33.93% while its maximum and minimum values are 46% and 27% respectively. Standard deviation is 5.23%.

Likewise the variable that captures market growth of the deposits (MGR) has a mean of 17% while its maximum and minimum values are 1.01% and 54.09% respectively. The standard deviation is 13.64%.

The other variable is (LDPTDP), this variable capture the cost of deposits to the bank. It is the demand deposits to total deposits ratio. This variable has a mean of 32.504%, maximum, minimum and standard deviation values of 100.2%, 3.45% and 15.75% respectively.

The minimum liquidity requirement (LMIREQ) has a mean value of 19.0% and maximum, minimum and standard deviation of 25%, 15% and 2.56% respectively.

Finally the variable for liberalization had a mean of 0.4; minimum and maximum values of 0 and 1 respectively while standard deviation is 0.49.

The variability as shown by the standard deviation is low for most variables suggesting that these ratios were relatively stable over the study period.

The Jarque-Bera statistics shows that the variables are not normally distributed except one variable. The minimum liquidity requirement is the variable with normal distribution. However, the linear combination of these variables is normally distributed as shown by Jarque-Bera probability.The application of this test shows that the Jarque-Bera statistics is about 0.3699 and the probability of obtaining such a statistics under the normality assumption is about 83%. Therefore we do not reject the hypothesis that the error terms are normally distributed. (See appendix under normality test of the residuals). OLS assumption requires that the error term is normally distributed. It does not emphasize the normal distribution of each variable used in regression.

4.2 Correlation Analysis.

Correlation is the degree of relationship existing between two or more variable and its quantitative measure is the correlation coefficient. The simple correlation coefficient for each pair of explanatory variables with values greater than zero, up to unity, indicates the presence of the problem of linear or near linear relationship among explanatory variables. If the correlation coefficient is equal to unity, there is perfect positive correlation between the explanatory. In this case the parameters become indeterminate and the method of least squares becomes useless. For our case there was no such bad result.

Table A1 in the appendix shows the correlation coefficient of the explanatory variables. We note that concentration ratio and liberalization are highly correlated with correlation coefficient 0.83.

This shows that liberalization strengthened the initially existing nature of the industry. Assets and liberalization (LIB) are also highly linearly correlated with the correlation coefficient of 0.83. This suggests that , liberalization and assets also move together.

Assets is also highly correlated with (CR), the correlation coefficient is 0.6.

The rest of the explanatory variables were not highly correlated hence multicollinearity was not a serious problem. It is important to note that there is no conclusive evidence concerning the degree of collinearity, which if presents will affect seriously the parameter estimates. For this study therefore, we took correlation coefficient of above 0.5 to indicate serious multicollinearity.

There are many ways which have been suggested as to solve the problems of multicollinearity. One of the ways is to exclude one of the two collinear variables from the model. This leads to specification error, which affect the BLUE (Best linear and unbiased) features of OLS. Therefore if we drop a variable, which is relevant, then the estimates of the parameters of the remaining variables will be biased. The second method is to increase the sample size, the question is upto what level or what size.

Finally, we can simply recognize its presence but accept it in the function although the least squares estimate to some extent are affected. This study adopts the last approach

4.3 Graphical Analysis

The dependent variable that is the rate of return on assets is trending .The variable recorded the lowest value in 1984, then it recorded an upward trend which peaked in 1995 after which there was a declining trend. The level of performance as measured by rate of return on assets declined in the post liberalization period. We can say that competition that resulted from liberalization (if any) may have led to the falling of the pofits as some banks were willing to accept short-run losses in the hope of future oligopolistic gains as competition stifles.

Loan to assets ratio which measures the risk showed an increasing trend in 1970s and early 1980s.The highest value was recorded in 1986 afterwhich there was a declining trend upto 1996. 1999 recorded the lowest value of this variable. This variable also seems to have a trend.

Oligopolistic nature of the industry recorded a declining trend from the beginning of period of analysis upto 1985. Since then, there was an upward trend with this variable ending the period with a value higher than the value at the start of the period of analysis. We can conclude that oligopolistic nature of the industry deepened after liberalization as shown by the trend from 1992

to the end of the period of analysis.This is a clear indication that liberalization of the sector did not promote competition. It is worth noting that as profitability increases, concentration ratio also increases. This now mask the short-run relationship between these two variables as oligopolistic nature of the industry is one of the factors that explain bank profitability The increase in profitability immediately after liberalization varies with many factors that may suggest any or a combination of decrease in costs, increase in productivity and the structure of the bank portfolio.There are several explanations for the trend in oligopolistic nature of the industry

The share of demand deposits to total deposits also depicted a declining trend but peaked in 1979 afterwhich the trend continued upto 1990.In the years after interest rate liberalization the cost of deposits to the banks peaked in 1993 but after then there was a change in the trend with the year 2001 recording the lowest value in the period of analysis.

Assets, from the graphs are trending throughout the period of analysis. This suggests that the variable may have a unit root. It also shows that banks' assets have increased overtime

The growth in the deposits is stationary from the graphical presentation. This variable was 9.2% at the beginning of the period of analysis but peaked in 1992 that is after liberalisation.This can be attributed to more entries into the industry which followed liberalisation of the interest rates. After that period there was a declining trend with the year 2000 recording the lowest value of 1.01%. The variable ended the period with 10% as the value.

Minimum liquidity reqirement, which is considered an implicit tax, was stable throughout in the 1980s except in the two years to the decade. Following the liberalisation this variable recorded an upward trend upto 1995 afterwhich it declined and stabilized again.

Following financial liberalization, market determination of interest rates should result in modestly positive real interest rates. These will in turn increase the resources available to the financial system since bank deposits offering a competitive return will attract savings that were previously held outside the formal financial system

From the analysis we find out that the deposits rates were negative in real terms throughout the period of analysis. This can be attributed to high inflation during the period of liberalization. The real lending rates were generally positive on average throughout the period of study.

The behavior of the intermediation margin is contrary to the financial liberalization hypothesis. The intermediation margins of the banking sector are expected to diminish with liberalization

The case of Kenya shows a rise in interest rate spread during the financial liberalization process This can be attributed to failure to meet the requirements for successful financial liberalization i.e., there was high inflationary pressure, financial instability, the inability to sustain fiscal discipline and may be lack of proper sequencing of the shift to use monetary policy tools. The spread widened by almost five times following the liberalization. This is a serious experience especially for a growing economy. Also worth noting is that real lending rates were much above the real deposit rates throughout the period of analysis.

4.4 Stationary Test

Before carrying out empirical estimation, we tested the data in order to eliminate any possibility of spurious and inconsistent regression.

A time series is said to be stationary if its distribution remains invariant with respect to time. The series is Non-stationary if the distribution changes with respect to time. It is often difficult to represent time series with past and future intervals of time by simple algebraic models if the process is non-stationary. Granger and Newbold (1974) noted that in the presence of non-stationary variables there might be what they called spurious regression. A spurious regression has R-squared and t-statistics that appear to be significant but the results are without any economic meaning. However, if stationary, the process can be modeled with fixed coefficients that can be estimated from past data. It is therefore necessary to test for stationary in a time series model.

A number of approaches exist for testing stationary of time series or existence of unit roots. We however use the Augmented Dickey Fuller (ADF) and Phillip Perron (PP) test for the order of intergration.The (PP) test takes into account the presence of structural breaks which characterize our study.

Results of the stationary tests

In the table below we present the unit root test for the variables in the levels and after first difference. As indicated in the table, the hypothesis of unit root cannot be rejected in all cases using ADF. Since the t-values are less than the critical values (in absolute terms) we can interpret these results as indicating that all variables are in-deed non-stationary in levels. Phillip Perron gives mixed results therefore for unit root we focus more on the results based on ADF.

Table 4.2 Summary of Unit Root test Results

VARIABLE	ADF TEST		PP TEST	
	LEVELS	FIRST DIFFERENCE	LEVELS	FIRST DIFFERENCE
ROA	-1.239821	-2.8262	-1.895150	-6.895150
LASSETS	-.521845	-3.732893	-0.522489	-3.731575
LFD	-1.462028	-3.353079	-1.485686	-5.353039
LMGR	-2.307889	-5.197957	-3.758121	-
LDPTDEP	-1.38787	-5.667623	-3.880929	-
LIMREQ	-2.450549	-4.634523	-2.450549	-5.242438
LONASSET	-2.471194	-6.233302	-5.095593	-
LIB	-0.760726	-3.674235	0.766088	-5.295023

*MacKinnon critical values for rejection of hypothesis of a unit root are found in the appendix

The results for stationarity test indicate that all variables have a unit root or are integrated of order one I (1) and are thus non-stationary in levels but integrated of order zero after first difference (i.e stationary). This suggest that in order to eliminate the possibility of spurious regression and erroneous inferences, we should use the first difference of the relevant variables in the estimation. However, this may lead to loss of information that occurs from the attempts to address non-stationary through differencing.

4.5 Cointegration Analysis

Since all the variables are I (1), we suspect that the variables are cointegrated since cointegration theory argues that although variables may have a linear combination that converges to equilibrium over time i.e. a combination that is stationary.It is therefore important that we test for cointegration relationship amongst variables in order to have an econometric model that is plausible in the long-run. If there is some tendency for some linear relationship to hold amongst a set of variables over long periods, cointegration test help to discover it.

We proceed from the conclusion that all series in the model are non-stationary and ntergrated of the same order I (1). Based on the above the study expects to observe that a ong run relationship exists between the variables. Engle and Granger (1987) two stage lgorithm procedure is employed to test for cointegration.The residuals from the long-run egression were stored and unit root test perfomed on them.The results rejects the

hypothesis(null hypothesis) of no cointegration implying that cointegration exists between the variables. This results means that the residuals of the cointegrating equation is I(0).(See appendix for cointegration test results)

The results are further corroborated by inspection of the graph drawn for the residuals obtained from the long-run equation.The residual plots indicated that there is cointegrating relation(see appendix).

From the coitegrating analysis it is possible to incorporate the error correction term ECM in the regression analysis in conjuction with the variables in the first difference. Regression results of the static equation are reported below.

4.6 Final estimation results

Table 4.3 Regression results from static equation with ROA as dependent variable

Variable	Coefficient	Standard Error	t-value	P- Value
CONSTANT	-22.11623	10.26448	-2.154637	0.0424
LMGR	0.442310	0.262807	1.683023	0.1065
LIB	1.894959	0.980880	1.931896	0.0664
LASSETS	-1.155984	0.357007	-3.237991	0.0038
LNASET	0.080897	0.440122	0.183806	0.8558
LDPTDED	-0.393028	0.474512	-0.828279	0.4164
LMIREQ	5.284610	2.079479	2.541314	0.0186
LCR	5.919426	2.472627	2.393982	0.0256

Note: The absolute change in dependent variable for a percentage change in the independent variable is obtained by multiplying the coefficient by 0.01.

R^2=62.25%, DW=1.42, F-Statistcs=5.18 ,n=30

From the above regression, five explanatory variables are significant at 5% and 10% levels of significance.These variables are LCR, LMGR,LIB, LASSET and LMIREQ as reported above The first variable has the expected sign meaning that the industry is highly concentrated Besides it implies that if the concentration ratio goes up by 1% banks' profitability increase by 0 05 units Secondly the market growth of the deposits has a positive sign implying that there has been growth in the market deposits hence higher profitability. It means that if the deposits grow by 1%, the profitability will increase by 0.004 units.

Liberalization has also a positive sign meaning that it has strengthened the oligopolistic nature of the industry instead of reducing it. This is because we expect to see a negative sign in case liberalization makes entry to the industry easy i.e. competition. The coefficient 1.895 of the dummy variable for liberalization gives the difference between the mean bank performance before and after liberalization. In this study, bank performance after liberalization was greater than performance before liberalization. The advantage of estimating the regression rather than looking at the table of means is that we can directly test whether the difference in mean performance is significant. The t-statistics of the (LIB) variable shows that this difference is significantly different from zero especially at 10% level of significance.

The assets that capture the size of the industry has a negative sign meaning there was a greater ability to diversify assets, this results in lower risk and low returns. The explanation is that reduction in risks through diversification of assets leads to a decline in profitability by 0.01units.

Minimum liquidity requirement has a positive sign meaning that it does not conform to theory in this study. However other studies observe that the impact of this variable will depend on elasticity of loan and deposits interest rates. Its positive sign implies that an increase in this variable by 1% leads to an improvement in profitability by 0.05 units. This is possible because when this requirement is increased banks tend to charge higher rates. Other variables used in the regression are not significant.

The individual variables have small impact on performance. However the overall determination of performance as shown by R-squared is 62.25% of the variation in the bank performance is explained by the explanatory variables together.

The equation above assumes stationarity of the variables. The economic theory assumption of stationarity of variables may lead to spurious regression results. This was necessitated by the need to rescale the variables. Due to non-stationarity of the variables the variables are differenced and the ECM incorporated.

Applying the unit root test to the residuals from the regression, we found that the residuals were stationary, suggesting that variables were cointergrated. Using this knowledge, we obtained the following error correction model. (ECM).

Table 4.4 Summary of the results of Error Correction Model with DROA as dependent variable

Variable	Coefficient	Standard Error	t-value	P- Value
CONSTANT	-0.340115	0.285882	-1.189703	0.2481
DLMGR	0.217810	0.202062	1.077937	0.2939
DLIB	0.719581	1.009435	0.712856	0.4842
DLASSETS	1.425314	1.475850	0.965758	0.3457
DLNASET	-0.199762	0.265679	-0.751891	0.4609
DLDPTDED	-0.465014	0.253801	-1.832198	0.0819
DLMIREQ	4.284517	1.914663	2.237739	0.0368
DLCR	0.056667	3.012836	0.018809	0.9852
ECM_1	-0.436426	0.219962	-1.984099	0.0611

Notes: ECM_1 is the lagged value of the residuals saved from the static equation.
The variables in the ECM model are in their first differences.

R^2=49%, F-statistics=2.04, DW=1.91, n=29

The ECM model shows the short-run effects of changes in explanatory variables on short-run changes in dependent variable and this can be compared to the long run one. The coefficient of ECM term (ECM_1) shows the speed of adjustment towards the long-run equilibrium in the case of the short-run disequilibrium. As the results show 43.6% of the discrepancy in the measure of performance in the previous year is eliminated this year.

The share of demand deposit to total deposits and minimum liquidity requirement are the only variables significant in the error correction model. The coefficient of ECM_1 term is also significant and it has the expected signs (negative sign). It is expected to be negative and less than unity in absolute terms since it is illogical to expect 100% adjustment.

The results show that in the short-run (adjusted for long-run variation by the error correction term), about 49% of the variations in bank performance is explained by all the explanatory variables and an error correction term.

The static equation shows a strong and positive relationship between liberalization and bank performance. However in the Error Correction Model, the liberalization is shown to have no effect on performance though the relationship is still positive.

The only variable that is able to explain the bank performance both in the short and long run equations is the minimum liquidity requirement. The significance and consistency of this

variable in the regressions confirm this. This variable is therefore of interest to the policy makers.

To get a more parsimonious model and to improve on our results we dropped variables with lowest-statistics values and estimated restricted model because they were not significant and there is no need to include them in our final regression. To come up with this model we lagged the differenced non-stationary variables once and ended up with the following model.

Table 4.5 Summary results of the parsimonious model with DROA as dependent variable

Variable	Coefficient	Standard Error	t-value	P-Value
CONSTANT	-0.065499	0.146722	-0.446415	0.6597
DLONASET_1	0.767767	0.229008	3.352579	0.0029
DLMGR_1	0.395722	0.167925	2.356540	0.0278
DLIB_1	2.262893	0.792340	2.855963	0.0092
DLOGLDP_1	0.512709	0.295707	1.733842	0.0969
ECM_1	-0.238553	0.160024	-1.490733	0.1502

R^2=54%, F-Statistics=5.18, DW=1.74, n=29

4.7 Diagnostic Tests

Due to uncertainty regarding the appropriateness of our specification, functional form and reliability of the results, there was a need to conduct some diagnostic tests on the model used in the regression.

Homoscedasticity test

The test for homoscedasticity is reported below.

White Heteroskedasticity Test:

F-statistic	0.503601	Probability	0.897677
Obs*R-squared	10.65809	Probability	0.776434

In the study it was found that the probability of accepting the null hypothesis of homoscedasticity of the error term is too high so we accept that the error terms are homoscedastic.

Serial Correlation test

The results are reported below.

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.990545	Probability	0.390733
Obs*R-squared	2.875299	Probability	0.237485

This test is a general test for error autocorrelation allowing for the case where the higher order or more complex form of error correlation exists. A significant value for the test implies that the null of no serial correlation is rejected. In our study the diagnostic test (AR) indicate that the probability of accepting the null hypothesis of no serial correlation is too high so we cannot reject the null and conclude that there is no serial correlation.

Normality Tests.

The assumption of normality is necessary for conducting the statistical test of significance of parameter estimates and for constructing confidence levels. This test provide information on the structure of the equation residuals. The application of this test shows that the Jarque-Bera statistics is about 0.4443 and the probability of obtaining such a statistics under the normality assumption is about 80%. Therefore we do not reject the hypothesis that the error terms are normally distributed. (See appendix D, under normality test of the residuals).

It is important to note that several previous studies using the SCP model have reported the regression results based only on the long run relationship between the variables. To be consistent with the previous studies, this study has also reported the regression results based on the long run relationship of the variables. The point of departure of this study from the previous studies is that it has taken into account the construction of an ECM model. This was necessitated by the results from stationarity test of each variable used in the regression. Even though the regression results of the ECM shows that most variables are insignificant, we had to construct it to satisfy the requirement of a standard econometric model.

In both cases, the relationship between liberalization and bank performance was found to be positive.

CHAPTER 5

5.0 CONCLUSIONS AND POLICY IMPLICATIONS

5.1 Conclusions

Our study was aimed at empirically testing the relationship between financial liberalization and bank performance. The study had two specific objectives, first to estimate a model that explain the determinants of commercial banks performance in Kenya .The last objective which will be accomplished in this chapter was to draw policy implications concerning bank performance in Kenya based on the empirical results. This would enhance policy design, implementation and evaluation in the area of bank performance in Kenya.

Financial sector reform in Kenya started in 1987, as a continuation of SAPs. Prior to liberalization, financial system was highly repressed with Government intervention in the banking sector through credit and interest rate control. Financial sector reform was to remove credit ceilings and interest rate control so as to ensure competition in banking industry.

The results of financial liberalization have been dismal, despite increase in bank performance, the intermediation margin has widened while the lending interest increased the savings decreased. Thus the financial sector has symptoms of the old repressed regime and interest rates have not become market determined. In fact, in the recent past there was an attempt to revert back to controlled interest rate regime through an amendment of the central Bank of Kenya Act by Parliament (The Donde Act)

The Structure-Conduct-Performance model in the Bainian tradition has been used to investigate the empirical relationship between performance and liberalization. Based on the results, the study provides some evidence that financial sector reform have an impact on bank performance at least in the long run. However this result is not supported by the short-run equilibrium equation. That is Kenyan bank performance was not explained by the liberalization immediately after the implementation of this policy. These perverse results are dependent on the interplay of parallel reform processes, shocks hitting the economy and other structural difficulties. Other reasons identified include; the financial structure in Kenya is dominated by a banking sector that is almost oligopolistic in nature. There is still Government presence in the financial sector through ownership in some financial institutions and a heavy presence in the money market.

Data from the Kenyan banking industry seems to support profitability-concentration relationship (The SCP model). Thus it is the oligopolistic nature of the industry that has been responsible for the high profitability overtime in the Kenyan banking industry. These results support the notion that fees and commission, which form part of the income for commercial banks that the monetary authorities do not regulate, are too high due to lack of competition. Bank have capitalize on these to reap heavy profits overtime. The results show that policy makers have not successful achieved competition target in Kenya banking industry and if their aim is to improve competition then it is not only through the interest rates liberalization that this can be done. The costs of transaction that the savers and the borrowers incur are also relevant avenues that banks exploit to strengthen and sustain collusion and high profits and therefore can be used to realize competition.

Though the reform in the Kenyan banking industry was completed in early 1990s, there is still more to be done.

5.2 Policy implications

The policy implications arising from this research relate to the concept of financial liberalization and bank performance. The current state of competition in the banking system is wanting with only nine banks accounting for 74% of the market and the rest 34 accounts for only 26%. The Government should therefore encourage more entries of privately owned banks.

Also the monetary authorities should determine the relative importance of fees and commissions vis-à-vis the income accrued from interest rates in the revenue functions of the commercial banks to examine the extent to which each is subject to abuse under the current nature of the industry.

Financial liberalization though desirable for its influence on increased financial mobilization would not be an end in itself, there should be a well-developed capital market to absorb the increased demand for investible funds.

The government should ensure the existence of a strong legal framework providing banks with certainty concerning their rights and obligations under the law and permitting them to enforce their financial claims expeditiously and effectively against counter parties in default. There should also be a corporate framework for banks that is characterized by sound governance, adequate internal risk management and financial control systems, market based decision making system and respect for the rights of customers and shareholders.

Areas for Further Research

There should be research in this field to establish the effect of liberalization on individual banks to see whether the same results from this study hold. Such a study should be done for both big and small banks within Kenyan economy.

Also there is need to asses the issue of effectiveness of the bank supervision during and after liberalization this is because the way the authorities perform their roles as supervisors can serve as important determinant of success of the reforms

Finally research should also be done to determine the specific components of income-earning services that are subject to abuse under the current state of the Kenyan banking system

5.3 Limitations of Study

Even though the study succeeded in fulfilling the stated objectives a number of limitations cropped up. The study uses secondary data from various sources. These sources sometimes gave conflicting data for some variables used. Secondary data is also known to be bedeviled with a set of problems including collection, measurement and processing procedures. Accuracy might have been compromised due to this.

The study was originally intended to cover a wider range of issues such as comparison between pre and post reform periods. However due to problems of time and data collection process it was not possible to cover all what was intended to be investigated. There was also problem of obtaining data from individual banks but the study relied mostly on the data from the Central Bank of Kenya Research Department.

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APPENDIX

Appendix A: Characteristics of the variables

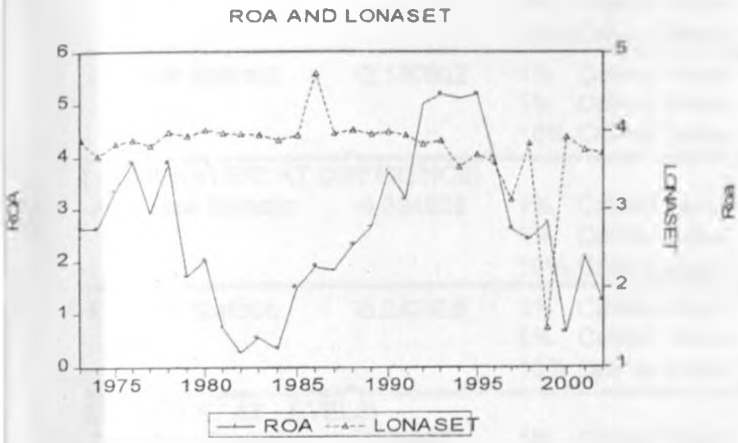
Table A1: Correlation matrix of ROA and independent variables

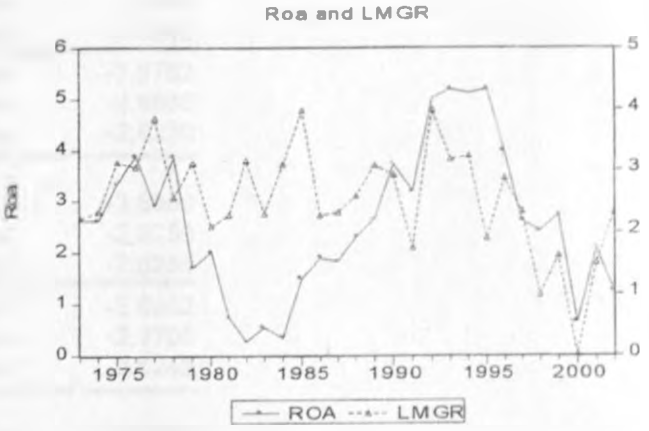
	ROA	LASSETS	LDPTDEP	LCR	LIB	LONASET	LMGR	LMIREQ
ROA	1.000000							
LASSETS	0 020128	1.000000						
LDPTDEP	-0.152096	-0.518695	1.000000					
LCR	0.481271	0.687213	-0.304794	1 000000				
LIB	0.389712	0 830411	-0.500487	0.830653	1.000000			
LONASET	-0.218833	-0.451402	0.191485	-0.508410	-0.464626	1.000000		
LMGR	0.230751	-0.387208	0.230084	-0.139057	-0.192808	0.015048	1.000000	
LMIREQ	0.398357	0.449630	-0.498063	0.472740	0.582517	-0.124274	-0.006824	1.000000

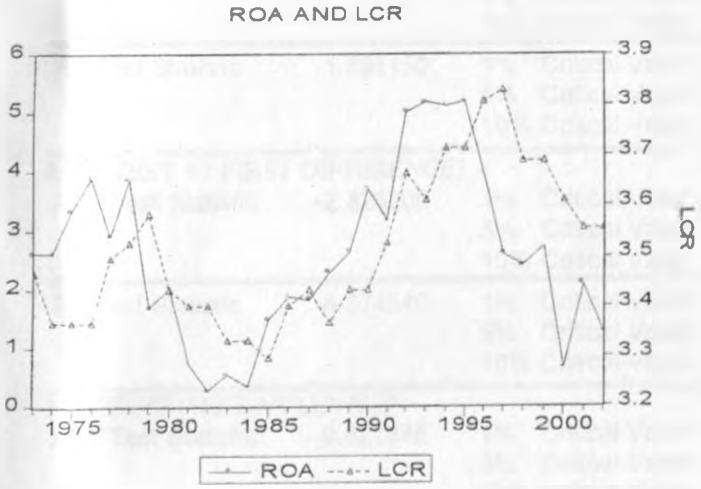
Table A2: Statistics of the Variables Used

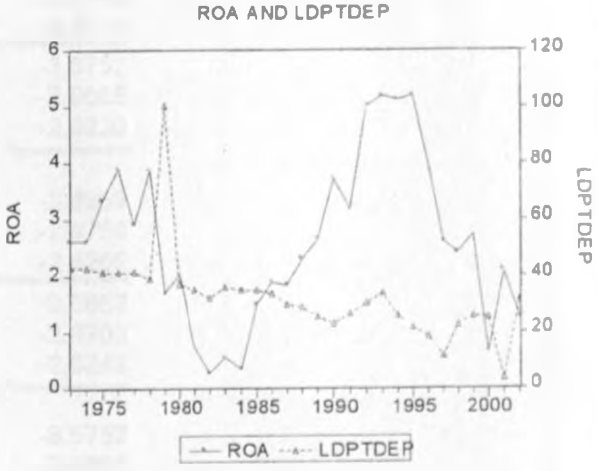
	ROA	LDPTDEP	LCR	LIB	LONASET	LMGR	LMIREQ	LASSETS
Mean	2.607800	32.50433	33.93333	0.400000	47.58767	17.08000	19.03333	118611.4
Median	2.615000	31.90000	32.50000	0.000000	48.19500	11.60000	20.00000	42114.50
Maximum	5.200000	100.2000	46.00000	1.000000	112.6000	54.09000	25.00000	438567.0
Minimum	0.270000	3.450000	27.00000	0.000000	4.430000	1.010000	15.00000	4615.000
Std. Dev.	1.447337	15.75387	5.232085	0.498273	16.12827	13.64654	2.566137	144949.4
Skewness	0.233066	2.450797	0.720115	0.408248	1.462826	1.516207	0.111874	1.087507
Kurtosis	2.289622	12.76584	2.520105	1.166667	11.49439	4.778331	3.328817	2.585548
Jarque-Bera	0.902395	149.2465	2.880706	5.034722	100.8926	15.44749	0.197730	6.128068
Probability	0.636865	0.000000	0.236844	0.080672	0.000000	0.000442	0.905865	0.046699
Observations	30	30	30	30	30	30	30	30

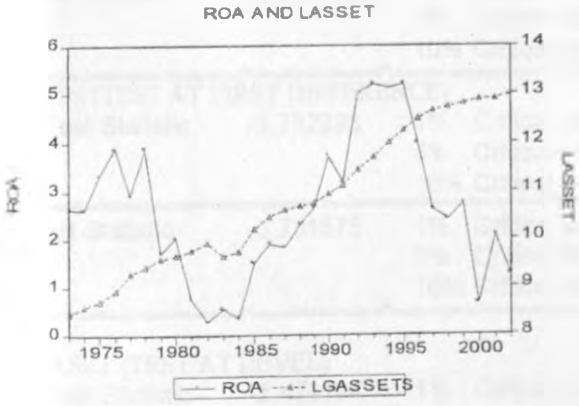
Figure A1: Figures of variables used

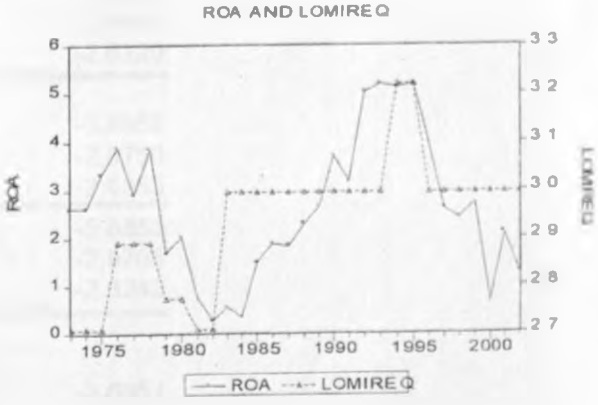












Appendix B: Results for the unit root

Table B1: Results for the unit root

1LOMIREQ(TEST AT LEVEL)			
ADF Test Statistic	-2.450549	1% Critical Value*	-3.6852
		5% Critical Value	-2.9705
		10% Critical Value	-2.6242
PP Test Statistic	-2.180902	1% Critical Value*	-3.6752
		5% Critical Value	-2.9665
		10% Critical Value	-2.6220
LOMIREQ(TEST AT DIFFERENCE)			
ADF Test Statistic	-4.634523	1% Critical Value*	-3.6959
		5% Critical Value	-2.9750
		10% Critical Value	-2.6265
PP Test Statistic	-5.242438	1% Critical Value*	-3.6852
		5% Critical Value	-2.9705
		10% Critical Value	-2.6242
2.ROA(TEST AT LEVELS)			
ADF Test Statistic	-1.239821	1% Critical Value*	-3.6852
		5% Critical Value	-2.9705
		10% Critical Value	-2.6242
PP Test Statistic	-1.895150	1% Critical Value*	-3.6752
		5% Critical Value	-2.9665
		10% Critical Value	-2.6220
ROA (TEST AT FIRST DIFFERENCE)			
ADF Test Statistic	-2.826200	1% Critical Value*	-3.6959
		5% Critical Value	-2.9750
		10% Critical Value	-2.6265
PP Test Statistic	-6.574540	1% Critical Value*	-3.6852
		5% Critical Value	-2.9705
		10% Critical Value	-2.6242
3.LASSETS (TEST AT LEVELS)			
ADF Test Statistic	-0.521845	1% Critical Value*	-3.6752
		5% Critical Value	-2.9665
		10% Critical Value	-2.6220
PP Test Statistic	-0.522489	1% Critical Value*	-3.6752
		5% Critical Value	-2.9665
		10% Critical Value	-2.6220
LASSETS (TEST AT FIRST DIFFERENCE)			
ADF Test Statistic	-3.732893	1% Critical Value*	-3.6959
		5% Critical Value	-2.9750
		10% Critical Value	-2.6265
PP Test Statistic	-3.731575	1% Critical Value*	-3.6852
		5% Critical Value	-2.9705
		10% Critical Value	-2.6242
4 LONASET (TEST AT LEVEL)			
ADF Test Statistic	-2.471194	1% Critical Value*	-3.6852

		5% Critical Value	-2.9705
		10% Critical Value	-2.6242
PP Test Statistic	-5.095573	1% Critical Value*	-3.6752
		5% Critical Value	-2.9665
		10% Critical Value	-2.6220
LONASET(TEST AT DIFFERENCE)			
ADF Test Statistic	-6.233302	1% Critical Value*	-3.6959
		5% Critical Value	-2.9750
		10% Critical Value	-2.6265
5LDPTDEP(TEST AT LEVEL)			
ADF Test Statistic	-1.387879	1% Critical Value*	-3.6852
		5% Critical Value	-2.9705
		10% Critical Value	-2.6242
PP Test Statistic	-3.880929	1% Critical Value*	-3.6752
		5% Critical Value	-2.9665
		10% Critical Value	-2.6220
LDPTDEP (TEST AT DIFFERENCE)			
ADF Test Statistic	-5.667623	1% Critical Value*	-3.6959
		5% Critical Value	-2.9750
		10% Critical Value	-2.6265
6.LCR (TEST AT LEVEL)			
ADF Test Statistic	-1.462028	1% Critical Value*	-3.6852
		5% Critical Value	-2.9705
		10% Critical Value	-2.6242
PP Test Statistic	-1.485686	1% Critical Value*	-3.6752
		5% Critical Value	-2.9665
		10% Critical Value	-2.6220
LCR (TEST AT DIFFERENCE)			
ADF Test Statistic	-3.086335	1% Critical Value*	-3.6959
		5% Critical Value	-2.9750
		10% Critical Value	-2.6265
PP Test Statistic	-5.353079	1% Critical Value*	-3.6852
		5% Critical Value	-2.9705
		10% Critical Value	-2.6242
7.LMGR(TEST AT LEVEL)			
ADF Test Statistic	-2.307889	1% Critical Value*	-3.6852
		5% Critical Value	-2.9705
		10% Critical Value	-2.6242
PP Test Statistic	-3.758120	1% Critical Value*	-3.6752
		5% Critical Value	-2.9665
		10% Critical Value	-2.6220
LMGR (TEST AT DIFFERENCE)			
ADF Test Statistic	-5.197957	1% Critical Value*	-3.6959
		5% Critical Value	-2.9750
		10% Critical Value	-2.6265
8.LIB (TEST AT LEVEL)			
ADF Test Statistic	-0.760726	1% Critical Value*	-3.6852
		5% Critical Value	-2.9705
		10% Critical Value	-2.6242
PP Test Statistic	-0.766088	1% Critical Value*	-3.6752

		5% Critical Value	-2.9665
		10% Critical Value	-2.6220
LIB(TEST AT DIFFERENCE)			
ADF Test Statistic	-3.674235	1% Critical Value*	-3.6959
		5% Critical Value	-2.9750
		10% Critical Value	-2.6265
PP Test Statistic	-5.295023	1% Critical Value*	-3.6852
		5% Critical Value	-2.9705
		10% Critical Value	-2.6242

*MacKinnon critical values for rejection of hypothesis of a unit root.

Appendix C: Testing for Cointegration

Figure C1: Graphing the residuals from static equation

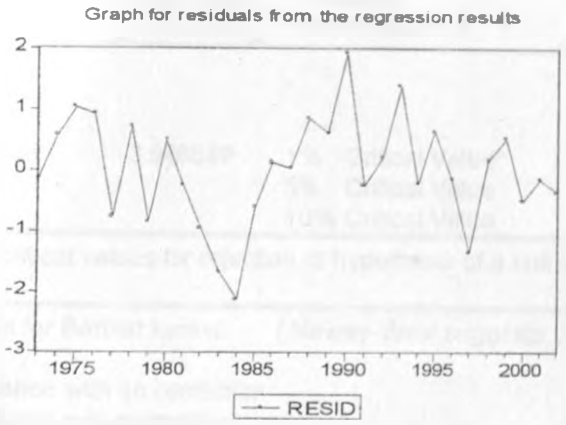


Table C2: Results for Cointergration

ADF Test Statistic	-3.553583	1% Critical Value*	-3.6852
		5% Critical Value	-2.9705
		10% Critical Value	-2.6242
PP Test Statistic	-3.946849	1% Critical Value*	-3.6752
		5% Critical Value	-2.9665
		10% Critical Value	-2.6220

*MacKinnon critical values for rejection of hypothesis of a unit root.

Table C3: Results for the stationarity of the residuals

ADF Test Statistic	-3.553583	1% Critical Value*	-3.6852
		5% Critical Value	-2.9705
		10% Critical Value	-2.6242

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(ERR)
Method: Least Squares
Date: 07/29/04 Time: 13:35
Sample(adjusted): 1975 2002
Included observations: 28 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ERR(-1)	-0.598774	0.234484	-2.553583	0.0171
D(ERR(-1))	-0.152167	0.196247	-0.775383	0.4454
C	-0.022237	0.169688	-0.131047	0.8968

R-squared	0.371123	Mean dependent var	-0.032594
Adjusted R-squared	0.320813	S.D. dependent var	1.089207
S.E. of regression	0.897646	Akaike info criterion	2.722875
Sum squared resid	20.14420	Schwarz criterion	2.865611
Log likelihood	-35.12024	F-statistic	7.376711
Durbin-Watson stat	2.019373	Prob(F-statistic)	0.003034

PP Test Statistic	-3.946849	1% Critical Value*	-3.6752
		5% Critical Value	-2.9665
		10% Critical Value	-2.6220

*MacKinnon critical values for rejection of hypothesis of a unit root.

Lag truncation for Bartlett kernel: (Newey-West suggests: 3)
3

Residual variance with no correction	0.724693
Residual variance with correction	0.825468

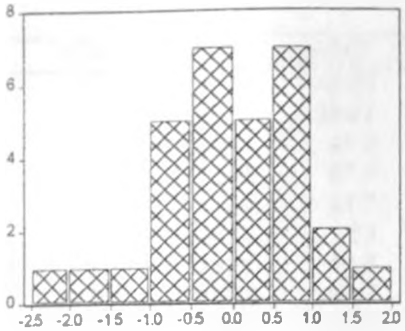
Phillips-Perron Test Equation
Dependent Variable: D(ERR)
Method: Least Squares
Date: 07/29/04 Time: 13:52
Sample(adjusted): 1974 2002
Included observations: 29 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ERR(-1)	-0.711699	0.184715	-3.852965	0.0007
C	0.001548	0.163845	0.009446	0.9925

R-squared	0.354767	Mean dependent var	-0.006822
Adjusted R-squared	0.330869	S.D. dependent var	1.078546
S.E. of regression	0.882255	Akaike info criterion	2.653802
Sum squared resid	21.01611	Schwarz criterion	2.748098
Log likelihood	-36.48012	F-statistic	14.84534
Durbin-Watson stat	2.057303	Prob(F-statistic)	0.000652

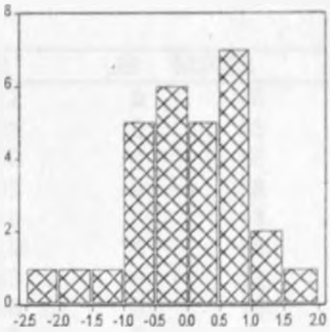
Appendix D: Normality Tests

Table D1: Test of residuals normality



Series: ERR
Sample 1973 2002
Observations 30

Mean	6.46E-16
Median	-0.052205
Maximum	1.928631
Minimum	-2.126819
Std. Dev.	0.889275
Skewness	-0.266812
Kurtosis	3.106007
Jarque-Bera	0.369990
Probability	0.831109



Series: ERR_I
Sample 1974 2002
Observations 29

Mean	0.011761
Median	0.038658
Maximum	1.928631
Minimum	-2.126819
Std. Dev.	0.902638
Skewness	-0.302226
Kurtosis	3.048451
Jarque-Bera	0.444317
Probability	0.800788

Appendix E:Interest Rates

Table E1: Interest rates and intermediation margins 1973-2002

Year	Nominal interest rates		Inflation	Intermediation margin	Real interest rates	
	Deposits	Lending			Deposits	Lending
1973	3	9	9.5	3	-0.62	-0.04
1974	5	10	17.3	5	-0.67	-0.39
1975	5	10	19.5	5	-0.7	-0.46
1976	5	10	11.2	5	-0.5	-0.09
1977	5	10	14.6	5	-0.6	-0.29
1978	5	10	12.6	5	-0.56	-0.19
1979	5	10	8.4	5	-0.36	0.17
1980	6	11	12.8	5	-0.49	-0.13
1981	10	14	12.6	4	-0.19	0.1
1982	12.5	16	22.3	3.5	-0.42	-0.27
1983	12.5	15	14.6	2.5	-0.13	0.02
1984	11	14	9.1	3	0.18	0.49
1985	11	14	10.7	3	0.02	0.28
1986	11	14	5.7	3	0.79	1.24
1987	11	14	7.1	3	0.48	0.85
1988	10	15	10.7	5	-0.05	0.37
1989	12.5	18	10.5	5.5	0.17	0.65
1990	13.5	19	15.6	5.5	-0.12	0.2
1991	12.9	20	19.7	7.1	-0.33	0.01
1992	12.8	22.3	27.1	9.2	-0.51	-0.17
1993	11.3	38.6	46	27.3	-0.74	-0.15
1994	8.6	30.9	28.8	22.3	-0.67	0.07
1995	6.9	33.5	1.6	26.6	2.03	12.27
1996	8	36.5	9	28.5	-0.1	2.75
1997	9.7	33.7	11.2	24	-0.12	1.84
1998	7.9	28.6	6.6	20.7	0.17	2.89
1999	6.2	25.2	5.8	19	0.05	3.29
2000	4.5	19.6	10	15.1	-0.5	0.86
2001	4.4	19.5	5.8	15.1	-0.2	2.01
2002	3.5	18.3	2.2	14.8	0.4	5.03

Source: IMF International Financial Statistics. CBK (Various), Financial and Economic Review

Appendix F: Variables

Table F1: Variables Used in the Regression

YEAR	ASSETS	LNASET	DPTDEP	MKDEP	MGR	LIB	MIREQ	CR	ROA
1973	4615	48.29	43.06	5236	9.2	0	15	32	2.63
1974	5365	39.27	42.77	5771	10.21	0	15	29	2.62
1975	5994	45.9	41.3	7094	22.92	0	15	29	3.34
1976	7489	47.9	41.3	8586	21.03	0	18	29	3.9
1977	10724	44.7	41.34	12612	46.9	0	18	33	2.91
1978	12357	53	38.98	14236	12.9	0	18	34	3.87
1979	14621	50.6	100.2	17444	22.53	0	16	36	1.71
1980	15572	54.7	37	18854	8.08	0	16	31	2.03
1981	17314	52.5	35	20693	9.75	0	15	30	0.74
1982	20350	52	32	25568	23.56	0	15	30	0.27
1983	15379	51.5	36	28120	9.98	0	20	28	0 55
1984	16943	48.1	35	34312	22.02	0	20	28	0.34
1985	27129	51	34.9	42661	53.47	0	20	27	1.5
1986	34882	112.6	33.6	46569	9.61	0	20	30	1.89
1987	40406	52.4	29.7	51276	10.1	0	20	31	1.83
1988	43823	54.9	28.7	58027	13.17	0	20	29	2.3
1989	46506	51.9	25.3	70524	21.54	0	20	31	2.65
1990	56236	53.6	22.86	83562	18.49	0	20	31	3.71
1991	67114	51.17	26.46	88359	5.7	1	20	34	3.19
1992	93432	45.9	30.24	136149	54.09	1	20	39	5.02
1993	120016	47.9	33.88	168770	23.96	1	20	37	5.19
1994	162740	34.4	25.73	211522	25.33	1	25	41	5.12
1995	209351	40.2	21.5	225642	6.68	1	25	41	5.2
1996	265309	36.3	18.3	265356	17.6	1	20	45	3.97
1997	313772	22.4	11.36	292684	10.3	1	20	46	2.61
1998	336962	46.17	22.5	300493	2.67	1	20	40	2.42
1999	362457	4.43	25.7	315612	5.03	1	20	40	2.74
2000	393778	50.2	25.2	312422	1.01	1	20	37	0.64
2001	399140	42.7	30.45	326422	4.48	1	20	35	2.084
2002	438567	41	31.8	359352	10.09	1	20	35	1.26

Source: Economic Surveys, Central Bank Quarterly Review, Central Bank Yearly Bulletins