FACTORS THAT DETERMINE FEE-BASED INCOME OF COMMERCIAL BANKS IN KENYA

PRESENTED BY:

Njoroge B. W.

SUPERVISOR:

Mrs. Angela Kithinji

LECTURER, DEPARTMENT OF ACCOUNTING

A RESEARCH PROJECT PRESENTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF A MASTERS DEGREE IN BUSINESS ADMINISTRATION FROM THE DEPARTMENT OF ACCOUNTING, FACULTY OF COMMERCE, UNIVERSITY OF NAIROBI.

September, 2005

DECLARATION

This research project is my original work and has not been presented for a degree in any other university.

Candidate: Njoroge B.W.

Reg. No: D61/P/7922/99

Signature _____ Date 4/11/2005

This research project has been submitted for examination with my approval as the university supervisor.

Supervisor: Mrs. Angela Kithinji

Signature _____ Date 04/11/2005

Lecturer, University of Nairobi

DEDICATION

This work is dedicated to my husband, Joshua the love of my life, for his unrelentless support and encouragement, without which I would not have been able to complete this challenging task , to my two babies, Lee and Nicole for being so patient with me as I spent time away from them to work on this project. And to my mum and dad, Mary and Gabriel, for your unconditional, unfaltering love and material support that made my academic dream come true.

ACKNOWLEDGEMENT

The completion of this project would not have been possible without the support of many people to whom I am greatly indebted.

My special thanks go to my supervisor, Mrs. Angela Kithinji who shepherded this project with great skill, encouragement, good humour and constructive criticism through its many versions. May God reward her richly.

I wish to thank my brother, Francis Muraya for his enthusiasm and willingness to assist in the editing of this work and to Karanja, James and Simon for their moral support throughout my studies.

I am also grateful to my research assistant, Paul Misati, fellow classmates and the staff of the Faculty of Commerce for their constructive ideas and support during the period we spent together.

AND ALL HONOR AND GLORY TO GOD WHO HAS SEEN ME THROUGH THE PROGRAM. I AM FOREVER INDEBTED.AMEN.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

This study sought to identify the factors that determine trends in the commercial banks' fee based income. Whilst some studies have been carried out on risk diversification and non-interest income in the Kenyan banking sector, there has been insufficient information on the factors that affect fees and commissions charged by commercial banks.
This study identified four factors as having a significant influence over fees and commissions. These are market share, investment in technology and other assets, cost of service and risk.

To facilitate in explaining the changes in the fees and commissions with that of the factors identified, regression analysis was used. Data of a five-year period between 1999 and 2003 was employed to form an equation after which market share was identified as the most important factor in determining fees and commissions. Two other factors namely investment in technology and other assets and cost of service were found to be important in only two of the five years of analysis. Investment in technology was found to have positive relationship with fees and commissions in 2001 and a negative relationship in 2003. These mixed results could be interpreted to mean that while technology and other assets cost banks a great deal, they also result to significant savings on part of the banks. The impact of additional cost and savings probably cancel out and the customer neither benefits from investment in technology and other assets nor suffers from the cost of the technology and other assets. Cost of service had a positive relationship with fees and commissions in 1999, but it did not have a statistically significant relationship between 2000 and 2002 and had a strong positive relationship in 2003. This could be interpreted to mean that by 2003, cost of service had become an important determinant of fees and commissions charged by banks in Kenya. Risk did not have a significant relationship with fees and commissions in any of the five years of analysis.

CHAPTER ONE

1. INTRODUCTION

1.1. Background

The banking industry is a key sector in any economy and as prime movers of economic life; banks occupy a significant place in every nation (Soyibo and Adekaye, 1991:1). Commercial banks and other financial institutions handle the financial assets of households and firms in the society. They bring together savers and borrowers by selling securities to savers for money and lending that money to borrowers. Financial intermediation is when savers deposit funds directly with financial institutions rather than purchasing stocks or bonds directly and financial intermediaries in turn lend to the ultimate borrowers. While savers and borrowers can and do interact directly, intermediaries are often more convenient because they represent a visible readily accessible market; minimize risk as a result of both portfolio diversification and their superior knowledge (Karmarschen, 1995:37).

Financial intermediaries therefore assist in transferring resources from savers to borrowers. In any capitalistic economy, there is never a perfect coincidence between those who have funds and those who can make use of those funds. They also aid in selecting projects and borrowers. Since there are always more individuals who claim that they have good uses for resources than there are funds available, financial institutions must decide who is likely to use the funds well and which projects are likely to yield the highest returns or are most likely to yield sufficient returns to enable the borrower repay the amount lent. Financial intermediaries also monitor funds to ensure that they are used in the way promised. For a variety of reasons, borrowers and lenders interests do not coincide. Lenders are only concerned with getting repaid and how much they can recover when the borrower defaults. The latter is of no concern to borrowers, and they are very much concerned with how well they do when they do not go bankrupt, that is, how much they make beyond the amount they have to pay back to the lender. This misalignment of incentives is often referred to as the moral hazard problem. Financial intermediaries do enforce contracts by making sure that those who have borrowed repay the funds (Stiglitz, 1993:5).

In the market economies commercial banks serve the purpose of providing financial intermediation and transaction services (Greenspan, 1996:295) and they in turn earn income which is related to the primary functions they perform. These functions are; financial claim origination, which involves the primary activities associated with the creation of a new claim, servicing which involves everything related to facilitating and monitoring financial transactions, brokerage which involves identifying potential buyers and sellers of various financial claims the intermediary is interested in and gathering information related to establishing the market value of a particular claim, portfolio risk management, which is the heart of intermediation and it involves selecting liabilities and assets to invest in (Thygerson, 1995:30).

In Kenya, most of the commercial banks profits' have been made from their investments in government treasury bills (Market Intelligence, 2004:16). The treasury bills market was liberalized in 1990. During this period, there was an economic recession and the Treasury bill rate was also very high as the Central bank used high interest rate treasury bills to finance the government's growing budget deficit. The high Treasury bill rates encouraged banks to invest in treasury bills (Ngugi, 2000: 7).

Rather than lend out more money, banks opted to invest much more in the secure and profitable government securities increasing the total investment in treasury bills by 25% from Kshs.72.4 Billion in 2000 to Kshs.91 Billion in 2001 (Market Intelligence 2002:4).

Other financial services which have provided a source of income for commercial banks in Kenya include provision of deposits and savings facilities, loans and advances foreign exchange services, money transfer and merchant banking and credit card services (KIPPRA, 2001:10).

1.2. Statement of the Problem

The primary source of commercial banks' revenue has been interest earned on loans and investments held in their portfolio strictly for investment purposes. The decline in interest income has however forced commercial banks to identify other sources of income (Mayo, 1998:158).

In Kenya, interest rates on government securities have been declining as a result of a reduction in the government borrowing from the public. With the introduction of the Central Bank of Kenya amendment Act 2000 popularly known as the 'Donde Bill' interest earnings on loaned funds have been restricted (Market intelligence, 2004:16).

Faced with declining returns from interest income, commercial banks are increasingly resorting to increasing fees and commissions as a way of boosting revenue. Most depositories have now stressed the growth of fee based revenue sources in the last several decades and as a result, the pressure to build non-interest income has accelerated.

Fee income revenue is now considered a reliable source of revenue because it provides diversification and greater stability for bank profits.

In the process of increasing fee- based income, banks are incurring additional costs on improved technology. In order to recover these costs, Commercial banks are now charging more fees for services such as credit cards and for the management of low balance accounts (Mayo, 1998:158). As a result there has been growing concern that the costs of obtaining bank services by the consumers are escalating and banking is becoming an expensive exercise.

Determinants of fee-based income have been identified as investments in technology, costs of providing a service, risk, and oligopoly (Hawtrey 2003:16). Although commercial banks are entitled to charge for services provided to consumers as a way of earning fee-based income, it is not known what influences fee-based income in Kenya.
The research will seek to provide answers to the question: What are the determinants of fees based income by commercial banks in Kenya?

1.3. Objective of the Study

To identify the factors that determine Fee-Based income of commercial banks in Kenya.

1.4. Importance of the Study

The results of this study will be of benefit to the following:

The investors and users of commercial bank services who would be able to know the factors that commercial banks consider in establishing prices for services they provide.

Commercial Banks who would be able to utilize the information when setting prices for the services that they provide.

Policy Makers to come up with the appropriate policy to guide the banking sector.

Government, so that it can establish if banks are justified in increasing fees and commissions.

Academicians, as the study is expected to stimulate further research in the area of fee based income of commercial banks and how prices set by commercial banks for services may differ from what academicians expect.

CHAPTER TWO

2. LITERATURE REVIEW

2.1. Financial Intermediation in Kenya

At independence Kenya inherited a financial sector comprised of the Currency Board of East Africa, a commercial bank sector dominated by foreign banks and a small number of specialized financial institutions. The inherited financial system expanded and became more diversified in the 1970s and the 1980s especially with the government's policy that set out to encourage local participation in the financial system and the setting up of specialized institutions to collect savings and finance investments through the issuing of new bank and NBFIs licenses (Ngugi & Kabubo, 1998:6).

Currently, Kenya has a well-developed financial intermediation system, which by the year 2003 was comprised of 43 licensed commercial banks of which 42 were in operation; with one commercial bank being under the central bank's statutory management; 4 building societies, 2 NBFIs, 52 foreign exchange bureaus and 2 mortgage finance companies (Economic survey, 2004:79).

The commercial banking sector was dominated by 9 banks as at the year 2001 and these accounted for approximately 69% of the commercial banking deposits. Most of the remaining banks are small and tend to concentrate on domestic and foreign trade targeting well- established companies (KIPPRA, 2001:3).

2.2. Commercial Banks and their Role

A commercial bank can be defined as an institution that accepts deposits that the depositor has a legal right to withdraw on demand and engages in the business of making commercial loans (Sinkey, 1992:44). According to Miller, et. al (1993:92), a commercial bank can be defined as a depository institution that is relatively unrestricted in its ability to make commercial loans and that is legally permitted to issue checking accounts.

Banks are the custodians of the general public's money, which they accept in the form of deposits and pay out on the clients' instructions. Major functions performed by the commercial banking firms include

The management of the payments systems. Commercial banks provide a sound and stable mechanism to effect payments. This not only involves the payment of cheques, but also that of credit and debits cards; ATM transactions and Electronic funds transfer transactions (http://www.finforum.co.za/institut/1bnkfunc.htm).

Dealing in foreign currency: not only do banks arrange various forms of transfer, but they also handle foreign financing and provide advice on exchange rates and foreign market conditions (http://www.finforum.co.za/institut/1bnkfunc.htm).

According to Thygerson (1995:28), commercial banks perform the role of servicing and portfolio risk management. Servicing often means the collection and payment of principal and interest on assets and liabilities. It includes everything related to facilitating and monitoring financial transactions: managing the mechanisms such as demand deposits and credit cards, for operating the nation's payments systems monitoring loans to ensure that borrowers adhere to the loan covenants, controlling collateral and performing other loan related activities. Portfolio risk management involves the selection of assets and liabilities the bank wishes to purchase or issue. The bank considers all risk aspects of the portfolio and then performs its assets and liability transformation service by combining the information on customers needs gathered with information of its portfolio.

Performing financial claims valuation analysis in order to determine the prices at which to buy and sell financial claims.

While savers and borrowers can and do interact directly, commercial banks are often more convenient because they represent a visible, readily accessible market and with their superior information and knowledge they are able to balance the desires of savers to invest in small sums for short periods with the desires of borrowers for larger and longer

term loans (Karmerschen, 1995:37). In conducting these functions banks earn both interest and fee based income

2.3. Classification of Incomes of Commercial Banks

The sources of commercial banks' income can be categorized into two: Interest income and Fee-based income.

2.3.1. Interest Income

Over the years, the major source of revenue for commercial banks all over the world has been interest earned on loans and other interest bearing liabilities (Gardner et al, 1994:641). Interest income refers to the price banks charge for loaning money, usually in the form of bank loan or overdraft (http://www.bba.org). According to Kidwell et al (1997: 460), interest on loans accounted for 56% of total operating income of commercial banks in the USA in 1994.

A banking survey conducted in Kenya by the Market Intelligence in 2003 shows that total interest income before expenses accounted for 63% of the total Kenyan banking income (Market Intelligence, 2004: 114-121). The survey also indicates that net interest income accounted for 58% of the total net income of the banking industry in Kenya.

2.3.2. Fee-based Income

The other key source of income for banks is fee-based income. Fee based income refers to amounts charged for operating a bank account or providing a particular service (Klein, 1988:90). It is any income that banks earn from providing services in relation to other activities other than their core intermediation business of taking deposits and making loans or from their investment (Mugendi, 2002: 7). Fee based income includes fees for services such as mutual fund and wealth management, securities underwriting, derivatives trading, asset securitization, brokerage transactions, cheque processing, ATM transactions, credit card transactions, foreign exchange, and payment and deposit services (Gardener, et.al, 1994:320).

Initially, banks provided fee-based services merely as a way of attracting and retaining customers for their primary lending and deposit taking activities. The increase in the amount of fee income in the organization earned was often a secondary consideration (Walker, 1987:264). Walker however continues to observe that narrowing spreads brought by increased sophistication of both borrowing and depositing customers, the volatility and unpredictable nature of interest rates and numerous other factors outside management control have all contributed to a decline in interest based income and therefore increased significance of fee-based income.

There are a number of different ways to measure the incidence of fee-based income at commercial banks. The key ones are: fee-based income as a percentage of bank assets, and fee-based income as a percentage of banks operating income (Ritter et al, 1996:310). Another important measure would be to compare fee-based income to interest income in order to show the increasing importance of the latter compared to the former.

2.4. Trends in Fees-Based Income Internationally

USA: In the USA, from 1981 to 1991, fee-based income as a percentage of average assets grew for banks of all sizes, from 0.65% to 0.72%. In contrast, net interest income fell during the same period, from 5.05% to 4.2% of average assets (Federal Financial Institutions Examination Council, Uniform Bank Performance Report, 1985,1992 as quoted by Gardner et al, 1994: 641). Gardner et al (1994) quotes other studies that show the following statistics for the USA economy:

From 1980 to 1988, fee income unrelated to mortgages grew from 6.1% to 13.3% of operating income at Federal Savings and Loan Insurance Corporation-insured institutions.By 1991, fee-based income from all sources at federally insured thrifts was almost equal to 12% of interest income. Among federal credit unions, fee-based income grew more than 40% per year between 1982 and 1985, the largest single change in any income or expense category during those years.

His conclusion is that these trends mark an era in which fee-based activities are assuming a major role in the management of depository institutions.

Studies in the 1990's in the USA show that the trend observed by Gardner et al (1994) continued to take root. Fee based income as a percentage of operating income increased from 34.8% in 1995 to 42.2% in 2001. The table below illustrates the increasing importance of fee-based income for the USA commercial banks in the mid 1990's to early 2000's.

	1995	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**
Fee-based Income/Operating Income	34.8%	36.5%	37.4%	40.3%	42.9%	42.9%	42.2%
Fee-based Income/Total assets	1.9%	1.9%	2%	2%	2.3%	2.5%	2.4%

Table 1: Trend of Fees Based Income as % of Total Income in the USA

Other statistics for the USA banking sector showing the increasing importance of non-interest income are illustrated in the table below:

US$ Billions	**1985**	**1986**	**1987**	**1988**	**1989**	**1990**	**1991**	**1992**	**1993**
Net Interest Income (I)	90.9	95	99.9	107.3	112.2	115.5	121.9	133.5	139.3
Non-interest Income (II)	31.0	35.9	41.5	44.9	51.1	55.1	59.7	65.6	74.9
II/I	34.1%	37.8%	41.5%	41.8%	45.5%	47.7%	49%	49.1%	53.8%

Table 2: Trend of Fees Based Income in the USA

(Source: Federal Deposit Insurance Corporation, *Statistics on Banking, 1990,1991;* and Federal Deposit Insurance Corporation, The FDIC Quarterly Banking Profile, Various Issues)

Canada: According to **Canada's Financial Services Sector, 2003 (www.iea-macro-economics.org) report,** the contribution of fee-based income (other income) to bank's revenues has been increasing over the past 10 years for the Canadian six major banks as illustrated by the chart below.

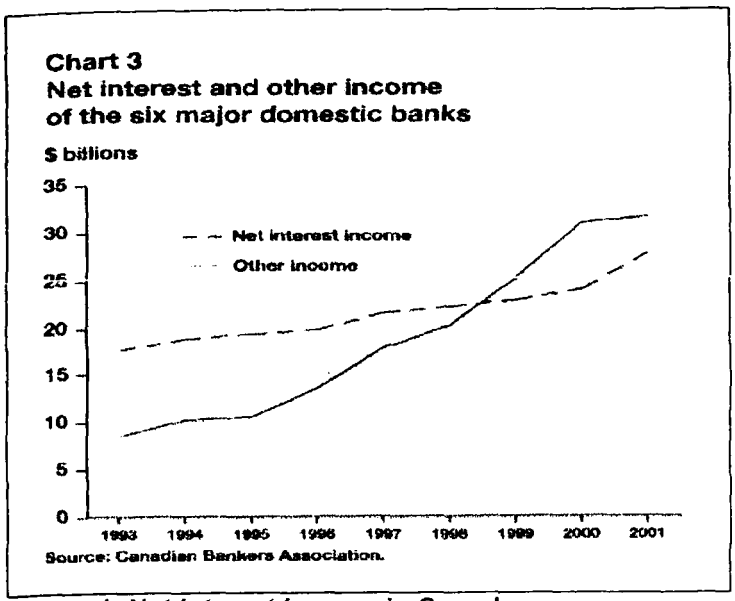


Figure 1: Net Interest Income in Canada

From the chart above, although this trend eased in 2001, net interest income, at $31.4 billion, still accounted for over 50 per cent of gross revenue.

Europe: A press release in 2000 by the European Central Bank titled European Union's Bank Income Structure (**www.ecb.int/press/pr/date/2000**) confirms the increased importance of non-interest income (fees, commissions and profits from financial operations and securities holdings) for EU banks. The reports main conclusions are:

Fee-based income has increased in importance relative to net interest income. The relative share of fee-based income (as a percentage of total operating income) increased in the EU throughout the entire period. With regard to more recent years, there has been a noteworthy increase from 32% in 1995 to 41% in 1998. This evolution was a result of both increasing fee-based income and the ongoing reduction in interest income.

The growth in fee-based income seems to have exerted a positive effect on bank profitability. The positive impact on profitability has, however, been limited by the increased operating costs associated with the development of activities generating fee-based income. Improved profitability has also been the result of other factors such as better-cost control and more efficient use of capital.

South Africa: The South African Reserve Bank in a paper titled: "Analysis of performance trends of the big five banks from 1992 to 2001"

(http://www.reservebank.co.za/internet/Publication.nsf) shows the following trends in fee-based income.

Year	Fee-based income/Operating Income
1992	39.48%
1993	38.92%
1994	39.11%
1995	42.29%
1996	42.74%
1997	44.61%
1998	45.52%
1999	47.86%
2000	51.29%
2001	53.9%

Table 3: Fees Based Income/Operating Income in South Africa

2.5. Trends in Fees-Based Income In Kenya

Kenya: The Kenyan trend is not different from that of the rest of the world. According to the Central Bank of Kenya, Bank Supervision Report for 2003 (http://www.centralbank.go.ke) bank charges have become an important source of income, as institutions continue to shift their business towards non-funded sources of income. Fees and commissions income rose by 124% from KShs 6.3.bn in 1999 to KShs 14.9bn in 2003 while the fees and commissions as a percentage of total income, rose from 21% to 24% in 2003 The increase reflected the decline in income from loans and advances over the years, from KShs 37.1bn or 58% of total income in 2002 to KShs 25bn or 42% of total income in 2003.The percentage of fee based income to total assets increased from 2.6% in 1997 to 3.9% in 2002 while the percentage of fee based income to interest income rose from 16.2% in 1997 to 42.4% in 2002 (Central bank of Kenya Supervision Report: 2004)

2.6. The Importance of Fee based Income

2.6.1. Net Interest Margins Under Pressure

During the last 20 years, the traditional intermediaries have experienced significant new competition and have lost valuable regulatory protections (Thygerson, 1995: 619). Such competition has been from non-bank intermediaries such as finance companies, Mutual funds, investment bankers and in the Kenya, Savings and Credit Societies (SACCOs) and micro finance institutions (MFIs).

The result of this competition has been unprecedented profit pressure, which led to consolidation and failure. The profit pressure has been felt most on the interest margin (Thygerson, 1995: 619), necessitating banks to think of alternative sources of income.

2.6.2. Risk Reduction

Mugendi (2002:10) quoting Fieldman and Schmidt (1999) asserts that fee-based income could lead a bank to be less risky if it leads to greater diversification. This diversification would only be achieved if changes in interest income were not associated with changes in the same direction and of the same magnitude for fee-based income. A study conducted between 1984 and 2000 indicate that the correlation between the two variables is very close to zero (Mugendi, 2001:10). Thygerson (1995:620) supports this argument by indicating that fee based income serves to diversify risk in the sense that it offsets the losses brought about by economic conditions to which interest income is susceptible.

A good illustration of how fee based income reduces risk would be the Kenyan banks. When the Central Bank of Kenya Amendment Act 2000, which sought to control interest income, was introduced, the banks openly stated that they would be seeking to increase their bank charges in order to mitigate the envisioned reduction of interest income and consequently their profits.

2.6.3. New Technology

Fieldman and Schmidt (1999) as quoted by (Mugendi, 2001:10) argue that technological advancement has facilitated development of new products in response to the changing

needs and level of sophistication. The explosion of the ATM is as a result of advances in communication and computing power. Most generally, the advances made in computing and telecommunications make it possible for banks to directly market fee-related services in manner not previously done.

2.7. Advantages of Fee-based Income

The principal advantages relate primarily to the fact that fee-based income can usually be earned without growing the size of the balance sheet and incurring capital requirements (Thygerson, 1995: 619). The other advantages are:

Less Subject to Business Cycles and Diversifies Income Source: Financial institutions also pursue fee-based generating activities in order to reduce the firm's vulnerability to the business cycle (Thygerson, 1995: 619).

Allows for Cross-Selling of Existing Customers: Many fee-based generating activities serve to take advantage of existing customers. A customer with an account relationship is generally easier to sell new products to than a person or firm that has no relationship with the bank. This fact provides for the rationale for expanding financial firm's product offering. The concept of the "one-stop financial centre" is based on this rationale (Thygerson, 1995: 620). A good Kenyan example would be the prestige account offered by Barclays bank of Kenya to its account holders. For an additional fee, the customer gets the convenience of quicker and comfortable access to his account.

Avoidance of Regulatory Capital Requirements: For commercial banks, the need to meet regulatory requirements provides a very strong inducement to increase fee-based income activities (Thygerson, 1995: 620). The development in the early 1990's of risk based capital requirements put emphasis on the on-and off balance sheet contingent liabilities of these firms. However these capital requirements do not relate to fee-based income generating activities that may involve large human capital and technology resources but little in the way of on balance sheet assets. As a result, the intermediaries subject to risk-based capital requirements have strong incentive to grow these fee-based income-generating activities that will not require additional capital.

2.8. Disadvantages of Fee-based Income

The principal disadvantages of non-interest –generating activities include:

Increase in the operating risk of financial firms. Most of these activities require investing in plant and equipment and human resources that serve to increase the fixed cost of operating the financial firm (Thygerson, 1995: 621). The other disadvantage is:

Economies of scale may inhibit entry: Many fee-based income-generating activities involve information processing activities such as servicing which may be susceptible to economies of scale. As a result, producers of large quantities can lower their average costs, which is why large firms dominate the credit card service market in the US (Thygerson, 1995: 621). A good example in the Kenyan banking market would be the Automated Money Tellers (ATM's). Big banks that have already invested on this technology make it very difficult for small banks to enter the retailing market.

2.9. Determinants of Fee-Based Income

From the mid '70s there has been a noticeable change away from providing the free chequing accounts as a number of banks discovered a new source of revenue; fee- based income. The current trend is to put a price to banking services that they have traditionally provided at no charge and to increase fees that have been far lower than their real costs (Chorafas, 1989:216).

Popular perception contends that fees behaviour of the commercial banks can be explained by their oligopolistic tendencies, which allows them to control the prices of services provided to consumers.

A study was carried out by Vittas (1988) on the pricing policies of commercial banks. The paper compared pricing systems in France, Sweden, Germany, USA and UK. The focus of the study was on the different consumer plans offered by financial institutions on demand deposits time and money market instruments. It also covered the banks'

schedules of current charges for these services. The study found out that in each of these countries there was no trend on how fees-based income is levied. While all institutions observed the regulations prevailing in their region, significant freedom was still left to the management of individual banks in terms of setting their pricing algorithms.

Hawtrey (2003:9) carried out an international study on Banks' non-interest income. In this study he identifies four factors as the main contributors of the growth in fees-based income, namely; investments in technology, costs of providing a service, risk, and oligopoly.

2.9.1. Investments in Technology

A characteristic of the banking sector is its quick adoption to the use of new technology. Broadly defined, technology includes computers, visual and audio communication Automated Teller Machines (ATMs) and credit cards (Saunders, 1994:248).

In Kenya, the total number of ATMs in the industry as at 31 December 2003 was 230. The number is expected to increase with the implementation of Ken switch, a shared ATM network comprising of a consortium of eighteen small and medium sized banks. Four banks are currently operating under the Ken switch project with a total of 14 ATMs offering 24-hr service. It is expected that six banks will operate under the project by the end of June 2004 ( )

As a self service transaction concept, the ATM is widely accepted because it provides ready access to cash and other routine banking transactions 24 –hours a day. Automated Teller Machines are convenient to the customer because of their geographic reach and they are inexpensive to use. Banks have introduced them as a way of reducing the staff numbers and related administrative costs associated with providing services to clients (Sinkey, 1992:131).

In their study on measuring productivity in the Australian banking sector, Oster and Antioch (1995:215) found out that an efficient technological base can result to lower

costs for a financial institution by combining labour and capital in a more efficient mix and revenue to the bank can be increased by allowing a wider array of financial services to be produced and sold to customers.

Hawtrey (2003) identifies investment in technology as a major determinant of banks' fee based income. The changing business of banking has created intense market pressure for institutions to invest in new retail banking technology. He states that ATMs in Australia have grown from 5000 to 16000 over a period of 10 years. The cost expended on new technology has been high and in order to recover their capital expenditure, banks have started to charge more for services thus increasing fee-based revenue.

2.9.2. Cost of Providing a Service

In the market economies, commercial banks serve the purpose of providing financial intermediation and transaction services (Greenspan, 1996:294).

In conducting these activities, banks provide services such as the processing of cheques, electronic funds transfer, bookkeeping, protection of deposited funds and investments services (Moulton, 2000:1). In providing these services, banks incur costs. The expenses incurred include staff salaries, occupation costs, equipment rentals and maintenance, advertising and data processing costs (Thygerson, 1995:172).

In order to break even and to operate profitably, the banks assets should generate revenues that cover the banks costs. Thus the recovery of the costs of providing the service is an objective in any pricing decision (Walker, 1987:264).

How well a bank manages to recover its costs and at the same time prices its services fairly is determined by how efficiently it operates.

In their study on measuring productivity in the Australian banking sector, Oster and Antioch (1995:211) identified cost of providing a service as a main determinant of the fees charged for that service. According to them, pricing its services at their marginal cost

of production maximizes a commercial bank's revenue. In their study they found out that when commercial banks became inefficient in managing the costs of providing their service, they attempted to recoup their costs by either charging a higher interest margin or by increasing their fees-based income.

2.9.3. Risk

Reilly and Brown (2000:10) define risk as the uncertainty that an investment will earn its expected rate of return.

In their study conducted on 472 US commercial banks between 1988 and 1995, Young and Roland (1999) found out that as banks increased their product mix towards fee-based activities their risks also increased, as indicated by the volatility in their earnings.
According to Thygerson (1995:672), non-interest generating activities require increasing the operating risks of financial firms. Most of these activities require investing in plant and equipment and human resources that serve to increase the fixed cost of operating the financial firm. This requires increasing the operating risk of running the firm

2.9.4. Size of Market Share

The banking system in Kenya as at 2003 was as follows; 43 commercial banks were licensed of which 42 banks were in operation. One commercial bank was under statutory management, while four building societies were licensed to operate, but only 3 were in operation as one was under statutory management (Economic Survey, 2004:79).

Out of the 42 commercial banks in operation, 10 of them own 75% of the total deposits in the industry (Market Intelligence, 2000:10). This situation is similar to that found in other African countries.

A study done on Uganda, Ghana and Mali found out that one commercial bank controls more than 50% of the total assets in the banking industry. The study concludes that such high concentration reduces competition, resulting in monopoly (Popiel, 1994:43).

Monopoly allows banks to have more control over the prices they charge for their services.

A study conducted in the USA by Heggestand and Mingo (1976:108) identified monopolistic tendency as one of the factors that affected the fees and commissions charged by commercial banks .The hypothesis for the study was that the greater the degree of monopoly or concentration in a market, the higher would be the prices of services and the worse would be the bank services. Their research was in the form of a survey and the proxy they used for monopoly was the number of depositors that the bank controlled in the sector amongst other measures. They worked on a sample of 600 banks. Their research concluded that a significant relationship existed between market concentration or monopoly and prices charged for services by commercial banks.

In their study Heggestand and Mingo (1976:117) concluded that the greater the degree of monopoly that banks have in their market, the greater will be their control over the fees and costs of services they offer.

CHAPTER THREE:

3. RESEARCH DESIGN

This chapter outlines the methodology employed in conducting the study.

3.1. The Population and Sample

The population for this study constituted all the commercial banks registered, licensed and were operating under the Banking Act. As at the date of this study, there were 43 commercial banks licensed, out of which 42 were in operation with one commercial bank being under the Central Bank of Kenya's statutory management (Economic Survey, 2004:79). The study however was restricted to banks that were licensed and operational for the period of 5 years from 1999 to 2003 which numbered 37. This period was chosen because it coincided with the period when banks significantly increased their charges in Kenya. Further, it was easier to obtain the data in the period since banks were directed by the CBK to publicly publish their accounts within this period.

3.2. Data Collection

The study made use of secondary data to carry out the analysis. Financial data on the commercial banks will be obtained from the Annual Bank Supervision Reports prepared by the Central Bank, the Nairobi Stock Exchange, Economic surveys by the Central Bureau of Statistics and Annual accounts of the banks.

3.3. Data Analysis

3.3.1. Estimation Using Regression Analysis

To test the importance of different influences on fee income, regression analysis was used. Regression analysis is preferred because it measures the average amount of change in the dependent variable that is associated with unit changes in the amounts of the independent variables. To improve accuracy and reduce computational error, SPSS research package was used to estimate the variables.

3.3.2. Definition of the Variables

The equation used to express the relationship between the dependent and independent variables is as shown below:

$$\mathbf{Y = f\ \{a + \beta_1(risk) + \beta_2(cost\ of\ service) + \beta_3(market\ share) + \beta_4(investment\ in\ technology) + e\}}$$

$$\mathbf{Y = f\ \{a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e\}}$$

Where:

Y, the Dependent variable is Fees and commissions **(F)** expressed as a ratio to total assets**(TA)**.

$$\mathbf{Y = F / TA}$$

and:

It is a function of the following Independent variables defined below:

Risk, denoted as $\mathbf{X_1}$

Hawtrey (2003) uses the Return on assets **(ROA)** as a proxy for commercial banks' earnings. Return on Assets is expressed as:

$$\mathbf{ROA = \frac{Profit\ after\ tax}{Total\ assets}}$$

In the study the risk was defined as the variability for an individual bank's return as measured by the absolute deviation or dispersion of the bank's return on assets from the industry return. Risk is therefore defined as:

$$\mathbf{X_1 = absolute(ROA_{bank} - ROA_{industry})}$$

Cost of providing service denoted as $\mathbf{X_2}$

In their study on measuring productivity in the Australian banking sector, Oster and Antioch (1995:211) identified cost of providing a service as a main determinant of the recover its production costs. According to Oster and Antioch (1995), the cost of providing a service is denoted by:

X_2= **Operating expenses**
Total assets

Market Share, denoted by X_3

According to Bruno and Mcleavey (2003), in analysing industry concentration, two methods are normally used. One method is the N- firm concentration ratio: the combined market share of the largest N firms in the industry. The other method is the use of the Herfindhal's index, which is the sum of the squared market shares of the firms in the industry. For the study, the number of assets a bank controls as a ratio of total assets in the industry will define the market share of the bank.

X_3= **Individual bank's total assets**
Total assets in the industry

Investments in Technology denoted by X_4

According to White et al (1998:153), the efficiency of long- term capital investment is measured by the fixed assets turnover. This ratio is defined as:

Fixed assets turnover = Sales
Fixed assets

Since most banks do not have large amounts of fixed assets the efficiency ratio will be defined as:

X_4 = **Total income**
Total assets

The other terms are **a**, which is the intercept of the function and it is a constant; $\beta_1,\beta_2,\beta_3,\beta_4$, which are the coefficients of the independent factors and **e** which is the error term.

CHAPTER 4

4. DATA ANALYSIS AND INTERPRETIONS

The study set out to determine the factors that affect fees and commissions charged by commercial banks in Kenya. Several independent variables were identified as having an influence on the fees and commissions charged by banks. The multiple linear regression model for each of the five years was obtained where cost of service, size of market share, its investment in assets and technology, and the variation of its return from the industry mean rate of return was regressed against the fees and commissions charged.

The research then discusses the results obtained for each year under study and made the overall conclusions.

4.1. Overall Results

4.1.1. Results for 1999

The regression equation obtained after regressing the fees and commissions against the independent variables in the year 1999 is illustrated as in Table 4 and is denoted as follows;

Y=0.007+ 0.206 Cost of Service+ 0.139 Market Share-0.065 Investment+ 0.055 Risk

Where **Y** is the proxy for fees and commission charged

Coefficients*

Model		Un standardized Coefficients		Standardized coefficients		
		B	Std. Error	Beta	T	Sig.
1	Constant	0.007	0.005		1.3533	0.185
	Cost of service	0.206	0.058	0.485	3.563	0.001
	market share	0.139	0.023	0.622	6.026	0
	Investment in assets (Technology & other Assets)	-0.065	0.034	-0.21	-1.935	0.062
	Deviation of individual bank's return from industry mean (risk)	0.055	0.036	0.172	1.527	0.136

* Dependent Variable: fees and commissions

Table 4: Coefficients of the Regression Equation for the Year 1999

At 95% confidence level and thirty two degrees of freedom (37 observations-4 independent variables-1 intercept), the critical value for the t-statistic is 2.037. Because the t-statistic of market share and cost of service (6.026 and 3.563 respectively) were greater than the critical t-statistic, we reject the null hypothesis that these two variables do not influence fees and commissions and conclude that they influenced fees and commissions in 1999. As illustrated in Table 4 there was an almost 100% confidence level that both the market share and cost of service explained fees and commissions in that year based on the significant t levels of 0 and 0.001 respectively. Using the standardized coefficients, market share was again identified as the most significant variable in explaining 62.2% of the fees and commissions charged by banks in 1999. These results indicate that in 1999, stronger banks in Kenya, in terms of market share, were able to charge higher fees and commissions compared to banks that controlled less market share and that all banks in general passed a significant portion of their costs to the customers in the form of fees and commissions. The lack of statistical significance of risk and investment in technology and other assets indicates that there is no statistical significance between these factors and fees and commissions.

Table 5 shows an adjusted R^2 of 0.675 indicating that 67.5% of the variation in fees charged by the bank could be explained by the four independent variables combined. The 1999 data had a Durbin-Watson statistic of 1.8, compared to the critical Durbin Watson statistics of d1 =1.25 and d2=1.72, at 37 observations and 4 independent variable, indicating that the predictor variables were not correlated.

Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of Estimate	Change Statistics					Durbin Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.842*	0.71	0.675	0.00592	0.71	20.2	4	33	0	1.8

* Predictors: (Constant), deviation of individual bank's return from industry mean, investment in assets, market share, cost of service

** Dependent variable: fees and commissions

Table 5: Model Summary for the Year 1999

The ANOVA results in Table 6, overleaf, indicate that the variables considered together had an F statistic of 20.171 compared to the critical F statistic of approximately 3.25 at df1=4 and df2=32. This implies that we reject the null hypothesis that the independent

variables taken all together do not influence fees and commissions and accept the alternative hypothesis that they were significant at 95% confidence level. The significant F value of 0 implies that there was near 100% confidence level that the four independent factors combined explained fees and commissions charged in the year 1999.

ANOVA**

Model		Sum of squares	df	Mean square	F	sig
1	Regression	0.003	4	0.001	20.171	.000*
	Residual	0.001	33	0		
	Total	0.004	37			

* Predictors: (Constant). deviation of individual bank's return from industry mean. investment in assets. market share. cost of service

** Dependent variable: fees and commissions

Table 6: Results of the ANOVA Analysis for the Year 1999

4.1.2. Results for 2000

The regression equation for the year 2000 is illustrated in Table 7 and is denoted follows:

Y= -0.001+0.037 Cost Of Service+0.171 Market Share+0.047 Investment-0.065 Risk

Coefficients*

Model		Un standardized Coefficients		Standardized coefficients		
		B	Std. Error	Beta	t	Sig.
1	Constant	-0.001	0.004		-0.252	0.802
	Cost of service	0.037	0.05	0.075	0.736	0.467
	market share	0.171	0.018	0.824	9.229	0
	Investment in assets (Technology & other Assets)	0.047	0.038	0.134	1.219	0.231
	Deviation of individual bank's return from industry mean (risk)	-0.065	0.038	-0.183	-1.742	0.091

* Dependent Variable: fees and commissions

Table 7: Coefficients of the Regression Equation for the Year 2000

In 2000, at 95% confidence level and thirty two degrees of freedom (37 observations-4 independent variables-1 intercept), the critical value for the t-statistic is 2.037. Because the t-statistic of market share (9.229) was greater than the critical t-statistic, we reject the null hypothesis that this variable does not influence fees and commissions and conclude that they influenced fees and commissions in 2000. As illustrated in Table 7 there was an almost 100% confidence level that the market share explained fees and commissions in that year based on the significant t levels of 0. None of the other variables were statistically significant at 95% confidence level.

Table 8 below shows the adjusted regression coefficient of 0.735 which implies that 73.5% of the variations in fees and commissions could be explained by these four independent variables.

The 2000 data had a Durbin-Watson statistic of 1.873, compared to the critical Durbin Watson statistics of d1 =1.25 and d2=1.72, at 37 observations and 4 independent variable, indicating that the predictor variables were not correlated.

Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of Estimate	Change Statistics					Durbin Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.874*	0.764	0.735	0.00433	0.764	26.642	4	33	0	1.873

* Predictors: (Constant), deviation of individual bank's return from industry mean, investment in assets, market share, cost of service

** Dependent variable: fees and commissions

Table 8: Model Summary for the Year 2000

The ANOVA summary in Table 9 below indicate that the variables considered together had an F statistic of 26.642 compared to the critical F statistic of approximately 3.25 at df1=4 and df2=32. This implies that we reject the null hypothesis that the independent variables taken all together do not influence fees and commissions and accept the alternative hypothesis that they were significant at 95% confidence level. The significant F value of 0 implies that there was near 100% confidence level that the four independent factors combined explained fees and commissions charged in the year 2000.

ANOVA**

Model		Sum of squares	Df	Mean square	F	sig
1	Regression	0.002	4	0	26.642	.000*
	Residual	0.001	33	0		
	Total	0.003	37			

* Predictors: (Constant), deviation of individual bank's return from industry mean, investment in assets, market share, cost of service

** Dependent variable: fees and commissions

Table 9: Results of the ANOVA Analysis for the Year 2000

4.1.3. Results for 2001

The results of the regression for the year 2001 are expressed in the equation below;

Y= -0.010+0.063 Cost Of Service+0.232 Market Share+0.106 Investment-0.078 Risk

Coefficients*

Model		Un standardized Coefficients		Standardized coefficients		
		B	Std. Error	Beta	T	Sig.
1	Constant	-0.01	0.005		-2.04	0.049
	Cost of service	0.063	0.07	0.109	0.893	0.378
	market share	0.232	0.025	0.786	9.305	0
	Investment in assets (Technology & other Assets)	0.106	0.047	0.329	2.24	0.032
	Deviation of individual bank's return from industry mean	-0.078	0.42	-0.227	-1.849	0.073

* Dependent Variable: fees and commissions

Table 10: Coefficients of the Regression Equation for the Year 2001

In 2001, at 95% confidence level and thirty two degrees of freedom (37 observations-4 independent variables-1 intercept), the critical value for the t-statistic is 2.037. Because the t-statistic of both the market share and investment in technology (9.305 and 2.24 respectively) were greater than the critical t-statistic, we reject the null hypothesis that these variables did not influence fees and commissions and conclude that they influenced fees and commissions in 2001. As illustrated in Table 10 there was an almost 100% confidence level that the market share explained fees and commissions in that year based on the significant t levels of 0. The statistical significance of investment in technology and other assets indicates that Kenyan banks had started passing the heavy costs of investment in technology to the customer through fees and commissions. Risk and cost of service were not statistically significant, and did not therefore, influence fees and commissions in 2001.

The standardized coefficients confirm that as in the previous two years market share had the most influence on the fees and commissions charged by banks. It was able to explain 78.6% of the changes in fees and commissions.

Table 11 below, shows the adjusted regression coefficient of 0.763 which implies that 76.3% of the variations in fees and commissions could be explained by these four independent variables.

The 2001 data had a Durbin-Watson statistic of 1.401, compared to the critical Durbin Watson statistics of d1 =1.25 and d2=1.72, at 37 observations and 4 independent variable, indicating that we cannot conclude on if the variables were correlated or not.

Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of Estimate	Change Statistics					Durbin Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.888*	0.789	0.763	0.006002	0.789	30.82	4	33	0	1.401

* Predictors: (Constant), deviation of individual bank's return from industry mean, investment in assets, market share, cost of service

** Dependent variable: fees and commissions

Table 11: Model Summary for the Year 2001

The ANOVA results in table 12 indicate that the variables considered together had an F statistic of 30.82 compared to the critical F statistic of approximately 3.25 at df1=4 and df2=32. This implies that we reject the null hypothesis that the independent variables taken all together do not influence fees and commissions and accept the alternative hypothesis that they were significant at 95% confidence level. The significant F value of 0 implies that there was near 100% confidence level that the four independent factors combined explained fees and commissions charged in the year 2001.

ANOVA**

Model		Sum of squares	Df	Mean square	F	sig
1	Regression	0.004	4	0.001	30.82	.000*
	Residual	0.001	33	0		
	Total	0.006	37			

* Predictors: (Constant), deviation of individual bank's return from industry mean, investment in assets, market share, cost of service

** Dependent variable: fees and commissions

Table 12: Results of the ANOVA Analysis for the Year 2001

4.1.4. Results for 2002

The regression equation for the year 2002 was as follows:

Y=-0.006+0.129 Cost Of Service-0.059 Risk+ 0.192 Market Share+ 0.075 Investment

Coefficients*

Model		Un standardized Coefficients		Standardized coefficients		
		B	Std. Error	Beta	T	Sig.
1	Constant	-0.006	0.004		-1.663	0.106
	Cost of service	0.129	0.078	0.248	1.648	0.109
	Market share	0.192	0.026	0.668	7.503	0
	Investment in assets (Technology & other Assets)	0.075	0.045	0.258	1.66	0.106
	Deviation of individual bank's return from industry mean (risk)	-0.059	0.054	-0.121	-1.091	0.283

* Dependent Variable: fees and commissions

Table 13: Coefficients of the Regression Equation for the Year 2002

In 2002, only market share was statistically significant at 95% confidence level as evidenced by its t-statistic value of 7.503 compared to the critical t value of 2.037. As in the previous years, there was an almost 100% confidence level (Significant statistic of 0) that market share could explain 66.8% of the changes in fees and commissions. Cost of service, risk and investment in technology and other assets remained statistically insignificant at 95% confidence level as evidenced by the t-statistic of below 2.037.

According to the regression results summarized in Table 14, the adjusted R^2 of 0.728 indicated that 72.8% of the variation in fees charged by the bank could be explained by the four independent variables. The 2002 data had a Durbin-Watson statistic of 1.618 compared to the critical Durbin Watson statistics of d1=1.25 and d2=1.72 implying that we could not conclude if the variables were correlated or not.

Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of Estimate	Change Statistics					Durbin Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.870*	0.757	0.728	0.0064722	0.757	25.726	4	33	0	1.618

* Predictors: (Constant), deviation of individual bank's return from industry mean, investment in assets, market share, cost of service

** Dependent variable: fees and commissions

Table 14: Model Summary for the Year 2002

The ANOVA results in Table 15 indicate that the all the independent variables were significant in explaining the changes in fees and commissions charged as evidenced by the F-statistic value of 25.726 compared to the critical F statistic of approximately 3.25 at df1=4 and df2=32.

ANOVA**

Model		Sum of squares	Df	Mean square	F	sig
1	Regression	0.004	4	0.001	25.726	.000*
	Residual	0.001	33	0		
	Total	0.006	37			

* Predictors: (Constant), deviation of individual bank's return from industry mean, investment in assets, market share, cost of service

** Dependent variable: fees and commissions

Table 15: Results of the ANOVA Analysis for the Year 2002

4.1.5. Results for 2003

The regression equation for the year 2003 was as follows:

Y=-0.003+0.301 Cost Of Service-0.028 Risk+ 0.193 Market Share- 0.015 Investment

Coefficients*

Model		Un standardized Coefficients		Standardized coefficients		
		B	Std. Error	Beta	t	Sig.
1	Constant	-0.003	0.003		-1.138	0.263
	Cost of service	0.301	0.045	0.568	6.726	0
	market share	0.193	0.025	0.643	7.826	0
	Investment in assets (Technology & other Assets)	-0.015	0.007	-0.196	-2.254	0.031
	Deviation of individual bank's return from industry mean (risk)	-0.028	0.028	-0.082	-0.971	0.338

* Dependent Variable: fees and commissions

Table 16: Coefficients of the Regression Equation for the Year 2003

Table 16 indicates that in 2003, there was a positive relationship between fees commissions charged on the one hand and the bank's cost of service, market share and investment in technology and other assets on the other. This is illustrated by the t-statistics of 7.826, 6.726 and -2.254 for market share and cost of service and investment in technology and other assets respectively compared to the critical t-statistic of 2.037 at 95% confidence level, 37 observations, 4 independent variables, and 1 intercept. In 2003, it appears that investment in technology and other assets had a negative relationship with fees and commission implying that banks passed the savings derived from use of

technology to the customer. Risk, as in the previous years, was not statistically significant at 95% confidence level.

From Table 17 below, an adjusted R^2 of 0.754 implied that the four predictor variables could explain up to 75.40% of the changes in fees and commissions. The Durbin Watson statistic of 2.14 provides conclusive evidence that the variables are not correlated since it is above the critical range of d1=1.25 and d2=1.72.

Model Summary**

Model	R	R Square	Adjusted R Square	Change Statistics						Durbin Watson
				Std. Error of Estimate	R Square Change	F Change	df1	df2	Sig. F Change	
1	.883*	0.78	0.754	0.0065165	0.78	30.179	4	33	0	2.14

* Predictors: (Constant), deviation of individual bank's return from industry mean, investment in assets, market share, cost of service

** Dependent variable: fees and commissions

Table 17: Model Summary for the Year 2003

The ANOVA results in Table 18 below indicated that the all the independent variables taken together, were significant in explaining the changes in fees and commissions charged as evidenced by the F statistic of 30.179 compared to the critical F statistic of 3.25.

ANOVA**

Model		Sum of squares	Df	Mean square	F	Sig
1	Regression	0.005	4	0.001	30.179	.000*
	Residual	0.001	33	0		
	Total	0.007	37			

* Predictors: (Constant), deviation of individual bank's return from industry mean, investment in assets, market share, cost of service

** Dependent variable: fees and commissions

Table 18: Results of the ANOVA Analysis for the Year 2003

4.2. Analysis of the Impact and Trend of Various Variables

In the section below, an analysis of the impact and trend of each variable in explaining fees and commissions over the five years period has been done.

4.2.1. The Impact of Market Share on Fees and Commissions

Figure 2 in Appendix 2 shows that there was a positive relationship between market share and fees and commissions charged by banks in all the five years of analysis. This is depicted by the positive slope of the line of best fit.

The influence of market share on fees and commissions increased between the years 1999 to 2001 and this is depicted by the changes in the value of the coefficient of regression. The coefficient of regression; R^2 increased from 0.5209 in 1999 to 0.724 in 2001. The influence of the market share on fees and commissions charged by commercial banks was thus highest in the year 2001. However in the year 2002 and 2003, R^2 declined to 0.6304 and 0.6400 respectively.

The most important observation is that market share remained strongly significant at 95% confidence level throughout the analysis period. Moreover, as illustrated by the R^2 that remained above 60% in all the five years of analysis, there is conclusive evidence that this variable significantly influenced fees and commissions.

4.2.2. The Impact of Cost of Service on Fees and Commissions

Figure 3 in Appendix 2 shows that there was a positive relationship between cost of services and fees and commissions charged by banks in all the five years of analysis. The coefficient of regression R^2 value of 0.2779 in 1999, for example, means that for every one shilling change in cost of services, banks were able to pass 27.79% of this to the consumer in form of fees and commissions.

The correlation coefficient R^2 decreased significantly from 0.2779 of the year 1999 to 0.0162 in 2000, as shown by Figure 3 in Appendix 2, increased slightly to 0.023 in 2001 before increasing to 0.0761 in the Year 2002. In the year 2003, there was a marked

increase in the R^2 to 0.5709. This was a big increase from the preceding years. It is within this period that banks were compelled by macroeconomic changes to diversify their investments from treasury bills, to fee-based income and thus this led to increased costs associated with providing new bank products such as Prestige Banking and Credit Card facilities.

An important overall observation is that this variable exhibited mixed relationship with fees and commission over the five- year period of analysis. As indicated in the earlier sections, the variable was statistically significant at 95% confidence level only in 1999 and 2003. The high R^2 of 0.5709 in 2003, however, may indicate that this variable had become very significant in determining fees and commissions and analysis of preceding years could confirm the emergence of this variable as a key determinant of fees and commissions.

4.2.3. The Impact of Investment in Assets on Fees and Commissions

There was a negative relationship between fees and commissions charged and investment in assets and technology during the year 1999, and 2003 as illustrated in Figure 4 in Appendix 2. The interpretation would be that the introduction of new technology such as ATMs, VSAT technology, led to a decrease in the banks' operating costs and a corresponding decrease in fees and commissions charged.

In 2001 and 2003, investment in technology and other assets was a statistically significant variable in explaining the fees and commissions charged by banks. However, in 2001, the relationship between fees and commissions and investment in technology and other assets was positive indicating that banks were passing the heavy cost in technology then to the customers. This is an opposite situation to 2003 when it appears that banks had started passing the benefits of costs savings through technology to the customers.

Overall the R^2 of this variable is low throughout the analysis indicating that the relationship between the dependent and independent variable was weak. Moreover, the

statistical significance of the independent variable was mixed with a statistical significance being attained in only two of the five years of analysis.

4.2.4. The Impact of Risk on Fees and Commissions

Figure 5 in Appendix 2 shows that there was a small and mixed relationship between risk and fees and commissions charged by banks in the five years of analysis. This is depicted by both the positive and negative slopes of the line of best fit.

4.3. Conclusion on Impact of variables on Fees and Commissions

On the overall, the table below summarises the impact of each of the variable on fees and commissions:

	1999	2000	2001	2002	2003	Comment	Rank of importance
Market Share							
T-statistic	6.026	9.229	9.305	7.503	7.826	Significant in all years	
Standardised coefficient	0.622	0.824	0.786	0.668	0.643	Offers highest explanation	1
Cost of Service							
T-statistic	3.563	0.736	0.893	1.648	6.726	Significant 1999 and 2003 Offers high explanation in	
Standardised coefficient	0.485	0.075	0.109	0.248	0.568	1999 and 2003	2
Investment in technology and other assets							
T-statistic	-1.935	1.219	2.24	1.66	-2.254	Significant 2001 and 2003 offers modest explanation in	
Standardised coefficient	-0.21	0.134	0.329	0.258	-0.196	2001 and 2002	3
Risk							
T-statistic	1.527	-1.742	-1849	-1.09	-0.971	Not Significant in any year	
Standardised coefficient	0.172	-0.183	-0.227	-0.121	-0.082		No relation
Overall							
Durbin Watson	1.8	1.873	1.41	1.618	2.14	Inconclusive 2001 and 2002	
F statistic	20.2	26.642	30.82	25.726	30.179	Significant all years	

Table 19: Ranking of Variables

Table 19 indicates that market share was the most important factor in determining the fees and commissions charged by banks. Cost of service and investment in technology and other assets were only significant in two years but with the standardised coefficient of cost of service being higher than that of the latter. The importance of cost of service seems to have significantly increased in 2003 as shown by its t-statistic and standardised coefficient. Risk was not significant in any of the five years of analysis and we, therefore, conclude that it had no influence on fees and commissions charged by Kenyan commercial banks between 1999 and 2003.

CHAPTER FIVE

5. SUMMARY OF FINDINGS, CONCLUSIONS, RECOMMENDATIONS, LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

5.1. Summary of Findings

Faced with declining returns from interest income, commercial banks are increasingly resorting to increasing fees and commissions as a way of boosting revenue. Most depositories have now stressed the growth of fee based revenue sources in the last several decades and as a result, the pressure to build non-interest income has accelerated.

Fee income revenue is now considered a reliable source of revenue because it provides diversification and greater stability for bank profits.

In the process of increasing fee- based income, banks are incurring additional costs on improved technology. In order to recover these costs, Commercial banks are now charging more fees for services such as credit cards and for the management of low balance accounts (Mayo, 1998:158). As a result there has been growing need to establish the factors that influence fee-based income. Thus, this study analysed factors that influenced Fee-Based income of Commercial banks in Kenya.

The results of the regression analysis carried out over the five- year period, between 1999 and 2003 on the 43 banks that were operating at that time indicate that:

The factor that was identified by the study as being the most important in determining fees and commissions consistently over the period under study was the size of market share. On its own, a change in Market share was able to explain between 71%- 78.9% of the changes in fees and commissions during the period under study. Cost of Service seems to have become significant only in 2003. Investment in technology was significant in 2001 and 2003.The relationship between investments in technology and fees was positive in 2001, an increase in this variable resulted to an increase in fees and commissions. Interestingly in the year 2003, there was a negative relationship between fees and commissions and investments.

5.2. Conclusion

The conclusion is that on the overall, the bank's investment in technology and other assets does not seem to impact the bank's decision on fees and commissions it charges its customers. The likely reason is that while technology and other assets cost banks a great deal, they also result to significant savings on part of the banks. The impact of additional cost and savings probably cancel out and the customer neither benefits from investment in technology and other assets nor suffers from the cost of the technology and other assets. Risk does not seem to have been significant at all.

The study concludes that the bigger the market share a bank controlled, the greater its power to raise fees and commissions, almost arbitrarily. Smaller banks were less likely to charge higher fees than larger, more powerful banks.

These findings were consistent with those of Heggestand and Mingo (1976:117) who concluded that the greater the degree of monopoly that banks had in their market due to a larger market share, the higher was the fees and commissions for the services they offered.

5.3. Recommendations

Over time, banks have experienced significant new competition and have lost valuable regulatory protection. The result of this competition has been unprecedented profit pressure, which led to consolidation and failure. The profit pressure has been felt most on the interest margin necessitating banks to think of alternative sources of income.

Banks are now focusing increasingly on fee-based income which is being realised from offering a wide range of products and services including corporate finance, brokerage services, mortgage finance management, and fees from investment portfolio management. Interestingly, the study has concluded that it is the larger banks that are likely to influence and control bank charges for the services provided to consumers by the banking industry, and other factors like cost of investment, risk and technology do not exert significant influence. This implies that the smaller banks may not have the required

infrastructure and resources to develop new products and the technology needed to generate fee based income, but these weakness may be eliminated through the formation of mergers.

5.4. Limitations of the Study

The study was conducted for a five- year period, from 1999-2003. Data pertaining to earlier periods was unavailable because banks were not distinguishing between interest and fee based income. The lack of this information denied this research the richness it could have otherwise achieved.

It was difficult to get information that could have enabled research to be carried out on other factors not included in this study, such as the role played by the management of commercial banks' in determining fees and commissions.

The study relied on data extracted from financial statements of commercial banks. Creative accounting could have been used when preparing the financial statements and its effect cannot be ruled out.

5.5. Areas for Further Research

A research could be carried out to establish the impact of regulation on fees and commissions and interest charged by commercial banks in Kenya.

A study can also be conducted on the Role of Management in determining fees and commissions of commercial banks in Kenya.

Another possible area for research would be to find out the Factors that influence a commercial banks' ability to control its costs.

REFERENCES

Banking Survey, (2000), *"Market Intelligence: The Business and Financial Journal"* Economic Intelligence LTD.

Banking Survey, (2002), *"Market Intelligence: The Business and Financial Journal"* Economic Intelligence LTD.

Banking Survey, (2004), *"Market Intelligence: The Business and Financial Journal"* Economic Intelligence LTD.

British Bankers Association (2001), *"Understanding Bank Charges and Interest"* **http://www.bba.org**

Bruno, S and Mcleavey, D (2003). *"International Investments"* 5th edition, Pearson Addison Wesley Publishing Co

"Canada's Financial Services Sector Report" (2003), **www.iea-macro-economics.org**

"Central Bank of Kenya Supervision Report" (2004), **http://www.centralbank.go.ke**

Chorafas, D (1989), *"Bank Profitability: From Cost Control to Pricing Financial Products and Services"* 1st edition, Butterworths Publishers LTD.

"Economic Survey" (2004), Central Bureau of Statistics

European Central Bank *"European Union's Bank Income Structure"* **www.ecb.int/press/pr/date/2000**

Gardener, Dixie and Cooperman, E (1994),*"Managing Financial Institutions: An Asset/Liability Approach"* 4th edition, Dryden Press.

Greenspan, A (1996), *"Commercial Banks and the Central Bank in a Market Economy"* Article 20, 5th edition, In Readings on Financial Institutions and Markets

Hawtrey, K (2003), *"Banks Non-interest Income: An International Study"* *khawtrey@efs.mq.edu.au*

Kamerschen, D (1995), *"Money and Banking"* 10th edition, Western Publishing company LTD.

Kandie, K (2003), *"Is There a Looming Price War in the Banking Industry?"* The Accountant, Journal of the Institute of the Certified Public Accountants of Kenya.

Kidwell, Blackwell and Peterson, R (1997), *" Financial Institutions, Markets and Money"* 3rd edition, Dryden Press.

KIPPRA Survey (2001), *"Legal and Other Constraints on Access to Financial Services in Kenya"* Kenya Institute for Public Policy Research and Analysis.

Klein, G (1988), *"Dictionary of Banking"* 2nd edition, Pitman Publishing.

Mayo, H (1998), *"Financial Institution, Investments and Management: An Introduction"* 6th edition, Dryden Press.

Moulton, R (2000), *"Measurement of Banking Services in the U.S National Income and Products Accounts: Recent changes and outstanding issues"* http://www.reservebank.org

Mugendi, K (2002), *"The Impact of Non-interest Income on Earnings Volatility of Commercial Banks in Kenya"* Unpublished MBA project, University of Nairobi.

Ngugi, R and Kabubo, J (1998), *"Financial Sector Reforms and Interest Rate Liberalization: The Kenyan experience"* A financial report, AERC Research Paper.

Oster, A and Antioch, L (1995), *"Measuring Productivity in the Australian Banking Sector"* **http://www.nationalaustralianbank.org**

Popiel, A (1994), *"Financial Systems in Sub-Saharan Africa: A Comparative Study"* World Bank Discussion Papers, African Technical Department Series, World Bank.

Reilly, F and Brown, K (2000), *"Investment Analysis and Portfolio Management"* 6th edition, Harcourt college publishers.

Ritter, Silber and Udell (1996), *"Principal of Money, Banking and Financial markets" 9th edition,* The Lehigh Press Inc.

Saunders, A (2000), *"Financial Institutions Management: A Modern Perspective"* 3rd edition, McGraw hill companies LTD.

Sinkey, J (1992), *"Commercial Bank Financial Management in the Financial Services Industry"* 4th edition, Macmillan Publishing Co.

South Africa Reserve Bank *"Analysis of Performance Trends of the Big Five Banks From 1992-2001"* **www.reservebank.co.za/internet/publication.nsf**

Soyibo, A and Adekaye, F (1991), *"Financial Systems Regulation, Deregulation and Savings Mobilization in Nigeria"* AERC Research Paper.

Stiglitz, J (1994), *"The Role of the State in Financial Markets"* in proceedings of the World Bank Annual Conference of Development 1993, World Bank.

Thygerson, K (1995), *"Management of Financial Institutions"* 1st edition, Harper Collins College Publishers.

Vittas, D (1988), *"Classification in Pricing Policies"* in Proceedings of workshop on electronic banking, World Bank.

Walker, R (1987), *"Reporting Systems for Bank management"* 1st edition, Bankers Publishing Co.

White, Sondhi and Fried (1998), *"The Analysis and Use of Financial Statements"* 2nd edition, John Wiley and Sons Inc.

Young and Roland (1999), *"Product and Earnings Volatility at Commercial Banks: Evidence From A Degree of Leverage Model"* **http://www.chicagofed.org/publications/**

APPENDICIES

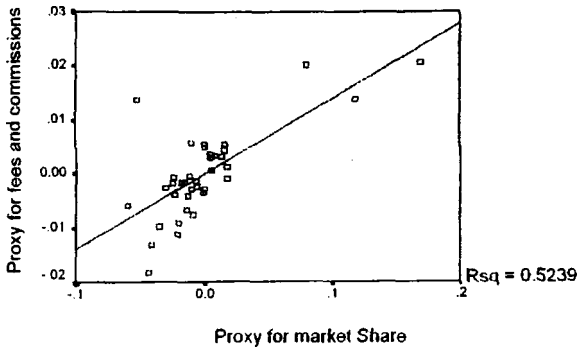
APPENDIX 1

	NAME OF INSTITUTION
1	African Banking corporation
2	Akiba bank
3	Bank of Baroda
4	Bank of India
5	Barclays Bank of Kenya
6	CFC Bank Limited
7	Charterhouse Bank Limited
8	Chase Bank Limited
9	Citibank,N.A
10	Commercial Bank of Africa
11	Consolidated Bank of Kenya
12	Co-operative Bank of Kenya
13	Credit Agricole Indosuez
14	Credit Bank Limited
15	Development bank of Kenya
16	Diamond Trust Bank
17	Equatorial commercial Bank
18	Fidelity commercial Bank
19	Fina Bank Limited
20	First American Bank Limited
21	Giro Commercial Bank
22	Guardian Bank
23	Habib AG Zurich
24	Habib Bank
25	Imperial Bank Limited
26	Industrial Development Bank
27	Investment & Mortgages Bank
28	Kenya Commercial Bank
29	Middle East Bank of Kenya
30	National Bank of Kenya
31	National Industrial Credit Bank
32	Paramount Universal Bank
33	Prime Bank LTD
34	Southern Credit Banking Corp.
35	Stanbic Bank Kenya Limited
36	Standard Chartered Bank LTD
37	Transnational Bank LTD

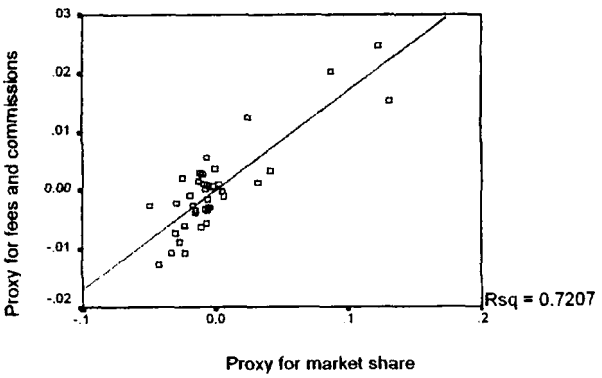
APPENDIX 2

Market Share and Fees and Commissions

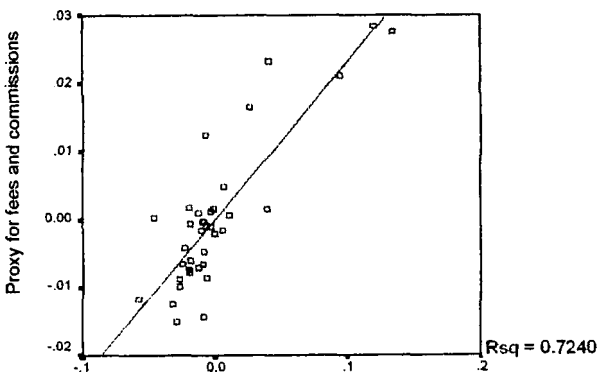
1999



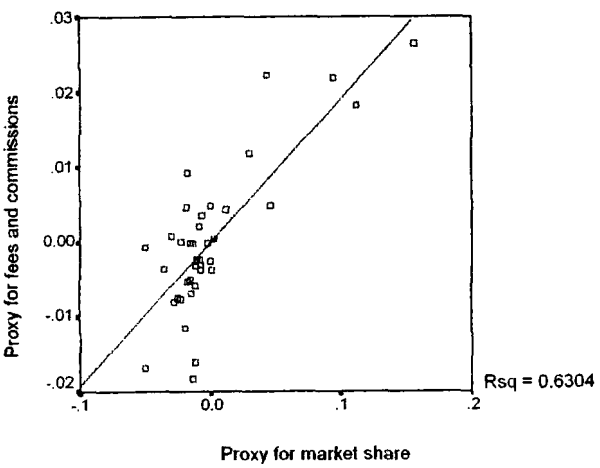
2000



2001



2002



2003

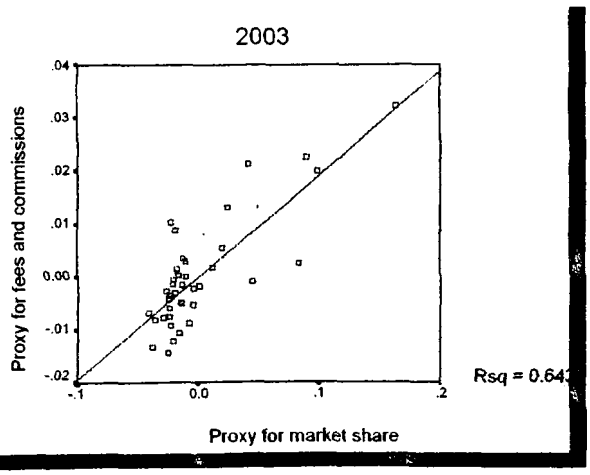


Figure 2: Relationship Between Market Share and Fees and Commissions

Cost of Service and Fees and Commissions

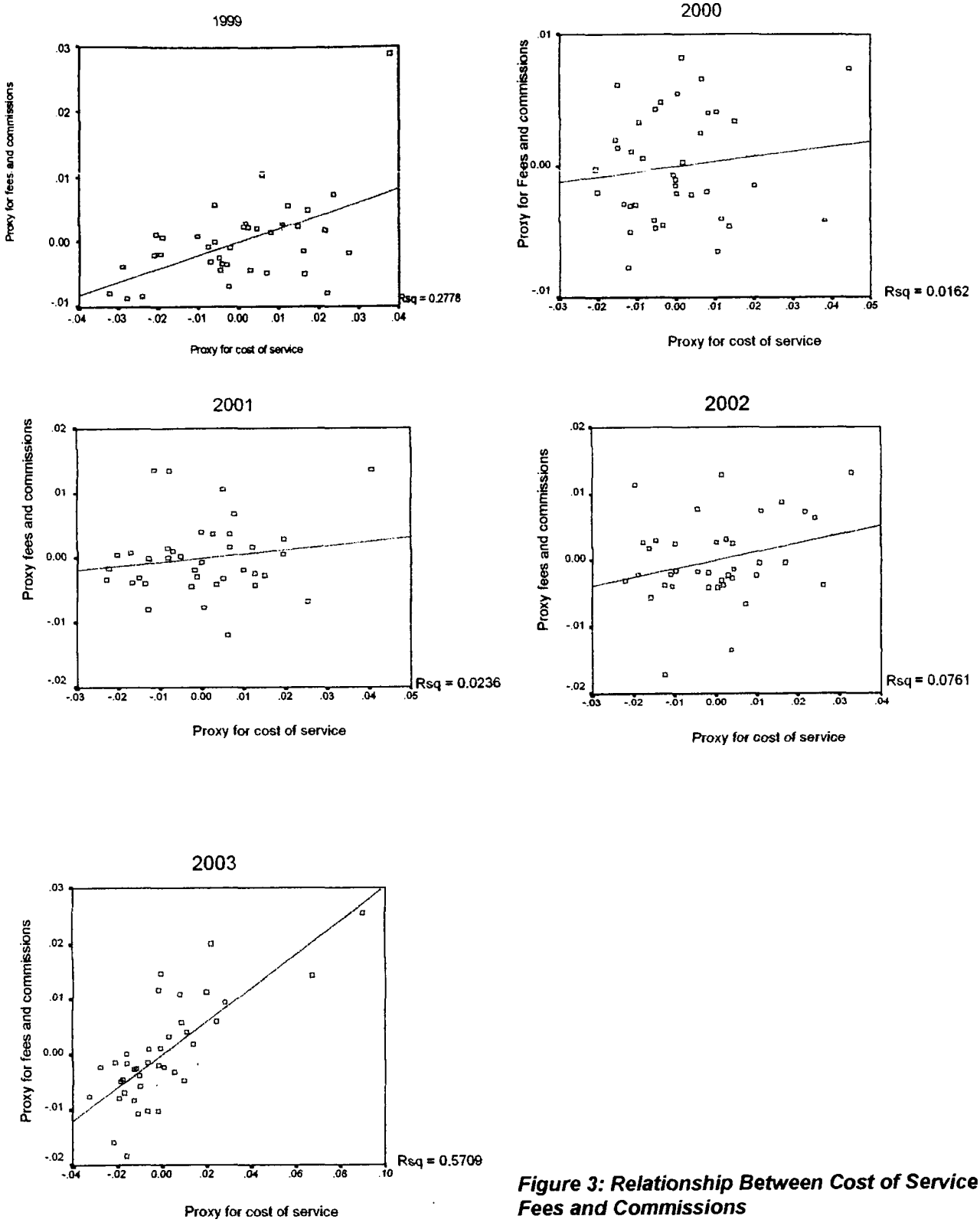
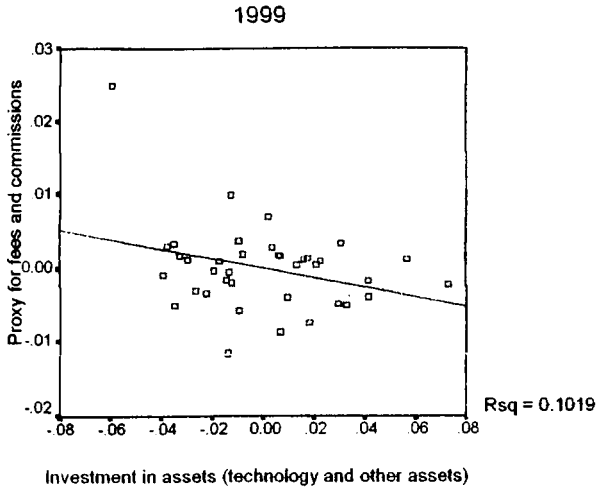
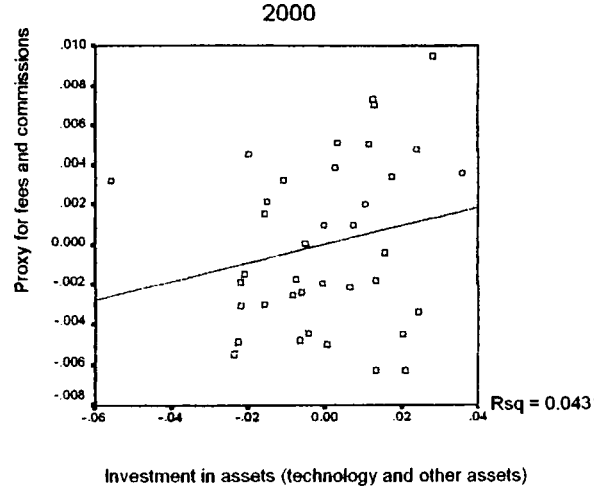
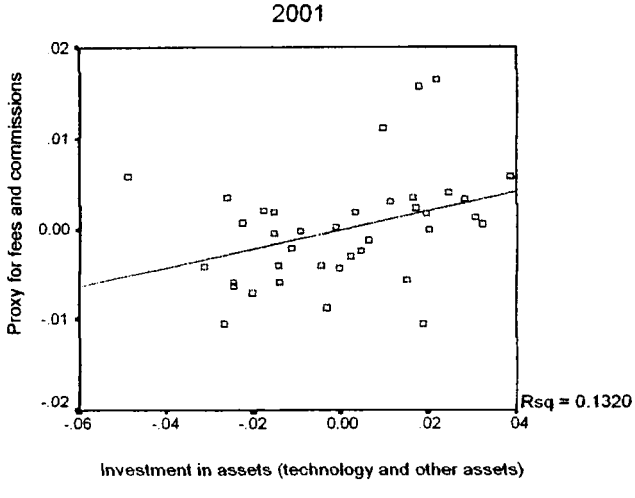


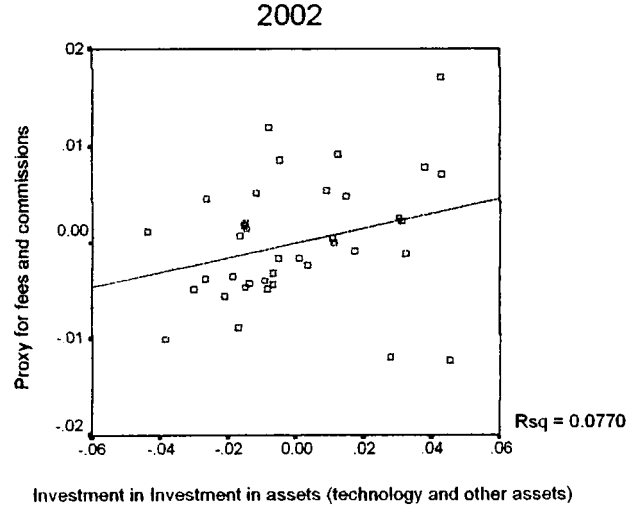
Figure 3: Relationship Between Cost of Service and Fees and Commissions

Investment in Technology and other assets and Fees and Commissions









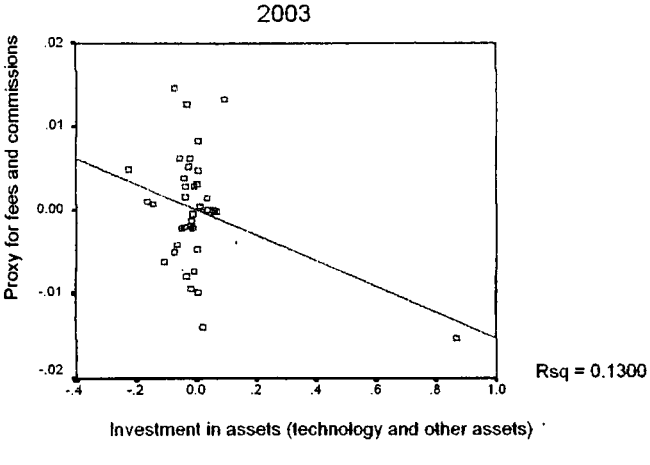


Figure 4: Relationship Between Investment in Technology and other Assets and Fees and Commissions

Risk and Fees and Commissions

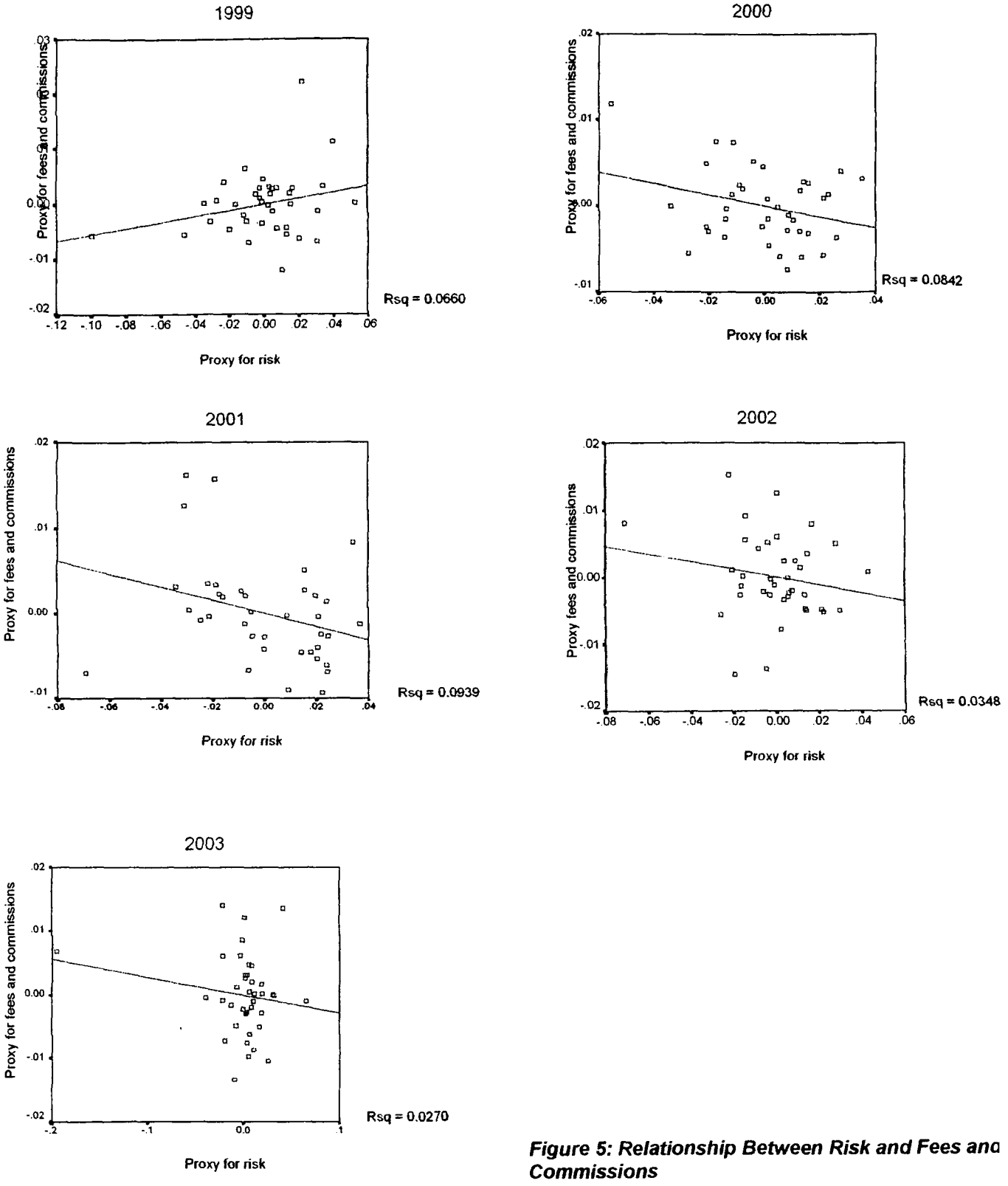


Figure 5: Relationship Between Risk and Fees and Commissions