

**A PERSPECTIVE ON THE IMPACT
OF THE DEPOSIT TAKING
INSTITUTIONS ACT ON BANKS
IN SOUTH AFRICA**

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**A mini-masters dissertation supervised by
Dr Hugh High and assisted by Mr Tony Leiman.**

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**"THE PROCESS AT FINANCIAL INSTITUTIONS,
TO MATCH SAVERS WITH INVESTORS, THOUGH
SEEMINGLY TRIVIAL, IS THE MOST
IMPORTANT ASPECT OF
ECONOMIC DEVELOPMENT".**

From the 1991 Frank M Engle Lecture of The American College,

Bryn Mawr, Pennsylvania, USA.

CONTENTS

PREFACE	1-5
CHAPTER 1:-	
THE HISTORY OF WORLD BANKING	6-14
1.1. Early History	6-9
1.2. A Revolution in Contemporary banking	9-11
1.3. Deposit Insurance	11-14
CHAPTER 2:-	
SOUTH AFRICAN BANKING AND THE ARRIVAL OF THE DTI ACT	15-23
2.1. Early History	15-17
2.2. The DTI Act	17-23
2.2.1. Discount Houses	17-18
2.2.2. Building Societies	18-19
2.2.3. Banks	19-20
2.2.4. Off-Balance Sheet Activities	20
2.2.5. Moneybrokers	20
2.2.6. Reserve Requirements	21
2.2.7. Permissible Bank Holdings	22-23
CHAPTER 3:-	
A CRITIQUE OF BANK THEORY	24-39
3.1. Deposit Insurance Theory	24

3.2.	Modern Intermediation Theory	25-26
3.3.	Boyd-Runkle Study	26-29
3.4.	Merger Theory	29-33
3.5.	Bank Performance Analysis	33-36
3.5.1.	Fundamental Analysis	33
3.5.2.	Technical Analysis	34
3.5.3.	Problem of Smoothed Earnings	35-36
3.6.	Public Policy Impact	36-37
3.7.	Organisational Structure Theory	37-39

CHAPTER 4:-

TESTING THE HYPOTHESIS THAT THE DTI ACT ENCOURAGED THE TREND TOWARDS BIGGER BANKS IN SA		40-48
4.1.	Introduction	40
4.2.	The Bank Sample	40-41
4.3.	Survey of Big Banks	41-45
4.3.1.	Standard Bank Investment Corporation	41-42
4.3.2.	First National Bank	42-43
4.3.3.	Nedcor	43-44
4.3.4.	Amalgamated Banks of SA	44-45
4.4.	Survey of Medium to Small Banks	45-47
4.4.1.	Investec Bank	45-46
4.4.2.	Rand Merchant Bank	46
4.4.3.	NBS Bank Group	46-47
4.4.4.	Boland Bank	47
4.5.	Conclusion	47-48

CHAPTER 5:-

TESTING THE HYPOTHESIS THAT BIG BANKS ARE BETTER PERFORMING BANKS THAN SMALL BANKS 49-69

5.1.	Introduction to Bank Shares	49-52
5.2.	Interest Rate Cycle	52-53
5.3.	Testing Bank Performance in SA	53-67
5.3.1.	Measuring Individual Bank Performance	53-63
5.3.1.1.	Commentary on the Graphs	56-63
5.3.2	Comparison of Big Banks vs Small Banks	63-67
5.3.2.1	Commentary on the Graphs	64-67
5.5.	Conclusion	67-69
BIBLIOGRAPHY		70-78

TABLES:-

5.1.	The PE Ratios and Gross Advances of Big Banks	55
5.2.	The PE Ratios and Gross Advances of Small Banks	56
5.3.	Mean Big Bank Ratios and Gross Advances from 1988 to 1992	64
5.4.	The Mean of Small Banks PE ratios and Gross Advances from 1988 to 1992	64

FIGURES:-

FIG 1:	Number of failed US Institutions, 1980 - 1989	12
FIG 2:	Banks Index vs Financial and Industrial Index between 1960 - 1992	50
FIG 3:-	Individual Gross Advances vs PE Ratios	57-61
3(a)	1988	57

3(b)	1989	58
3(c)	1990	59
3(d)	1991	60
3(e)	1992	61
3(f)	Comparison of Big Banks vs Small Banks between 1988 - 1992	65

PREFACE

The primary objective of this mini-thesis is to show that the new banking legislation, which was implemented in South Africa in February 1991, as the Deposit Taking Institutions Act of 1990 [hereinafter "DTI"], encouraged the trend towards larger financial institutions in South Africa. A further aim of this thesis is to find a variable that best represents a financial institution's performance and to use this measure to determine a relationship, if any, with an individual bank's size. The test is to be conducted utilising a sample of South African banking institutions.

The concept of size versus performance has been considered often in myriad studies of financial institutions worldwide. However, it should be noted that studies regarding the performance of the banking industry in South Africa, are virtually non-existent. In Chapter 1, a brief history of world banking trends will be discussed, while in Chapter 2 we will deal with bank developments in South Africa, including an in-depth study of the DTI Act. In Chapter three, we survey banking literature and note particularly the methodologies employed in analysing the relevance of performance indicators, and the criterion used, to demonstrate the effectiveness and efficiency of a financial institution. It is shown that at least fifty studies, between 1990 and 1993 have purported to demonstrate, *inter alia*, the influence of government regulation on banking performance, economies of scale at banks, benefits associated with inter-bank mergers, as well as the results of bank and non-bank mergers.

Contemporary studies of the banking industry have also employed a variety of

measurement techniques to evaluate a bank's performance. This has entailed various approaches ranging from fundamental analysis to more sophisticated programming methodologies. Moreover research has attempted to discern the optimal level of efficiency, at an individual financial institution.

The underlying objective of this mini-thesis is to reveal whether big banks perform better than small banks in South Africa. Here it is hypothesised that legislation, in the form of the DTI Act, has in fact given rise to bigger banks. Yet there is evidence, [Boyd and Runkle(1993)], that bigger banks are not better performing banks. Following in part from Boyd and Runkle, the performance criterion to be used, herein, is the price earnings (PE) ratio, while size is determined by gross advances. The aim of this enquiry is to look at an individual bank to gauge a relationship, if any, between size and performance. The expectation is that the bigger the bank the higher its PE ratio, because there is clear support for bigger banks in the DTI Act, as will be argued in Chapter 2 & 4.

We utilise data from a sample of small South African banks and compare their performance with a sample of large South African banks. All the banks analyzed are publicly listed companies on the Johannesburg Stock Exchange (JSE).

The rationale for using the PE ratio was suggested by Robert C. Jones [(1991) (27)]. It was found that "... the price earnings ratio of a particular bank measured against some propriety evaluation, was the most effective discriminator for the bank industry..." . Similarly Mary Barth *et al* [(1992) (42)] argued that an internal evaluation

of a bank using a profitability variable was fraught with problems "... because of the practice at institutions, of smoothing an earnings performance...". Therefore the most acceptable performance measure, it was argued, would come from an external evaluation. Barth's observation provides further support for the use of the price earnings ratio, as it is an externally-orientated performance measure.

South African bank data has historically been difficult to obtain because of limited financial disclosures. On the other hand external data has been fairly accessible. South African banks have, until fairly recently, disclosed minimal financial information in their interim and annual financial statements. In some cases at smaller banks, an essential item such as earnings was never disclosed, until as late as 1990. The DTI Act enforces stricter disclosures and now regulates disclosure policies. The limitation associated with data availability, has enhanced the case for utilising openly obtainable bank data, such as the PE ratio and gross advances. Various methods have also been tried for presenting the data but in the end we settled on the approach of adopting a graphic representation, since the limited data size of the SA bank sample restricted the number of statistical techniques that could be employed.

In this study, each individual bank's performance is plotted for the period, 1988 to 1992 and then an average sample of big banks and an average sample of small banks are compared over the same period. This is illustrated in Chapter 5.

The period observed has relevance, even with the limitations attached to the sample size. This period represented a time when financial institutions began operating with

a view to the more rigorous legislative guidelines to follow, based on the DTI Act. In addition, the loosening of other laws, such as merger and acquisition legislation, allowed bank management and its shareholders to reveal their preference in relation to bank size. This is discussed in Chapter 4. Support can also be gathered for the fact that the South African Reserve Bank, under whose auspices bank supervision presently falls, seemingly prefers larger financial groupings, as is noted in Chapter 2.

The results lead to the conclusion that "niche" banks or more correctly "a niche focus" is the most effective strategy in the banking industry. I will further discuss whether size is a significant factor in the financial sector. This will be developed in greater detail in Chapter 5.

I wish to thank my supervisors Doctor Hugh High and Tony Leiman. In addition I acknowledge the support of Professor Grahame Barr in deciding on a suitable method or presenting the data. Finally I must also thank both Doctor Craig Friedman and Professor Haim Abraham, whose courses during the Taught Masters in Economics helped me fashion conclusions to this thesis. Outside the academic environment I wish to thank South Africa's two leading bank analysts, Richard Jesse of stockbroking firm Martin & Co and Alan McConnochie of Ed Hern Rudolph Inc, for making available data and auxiliary information, essential to the analysis of banks shares.

Footnotes

1. Note that for the rest of this study the phrase DTI and Bank are considered interchangeable. Bank also adequately describes building societies and discount houses under the DTI Act, which was renamed the Banks Act in 1993.
2. The clearest indication of the effect of the new DTI Act, has been the vastly improved financial disclosures, especially from smaller banks, since 1991.

CHAPTER 1:- THE HISTORY OF WORLD BANKING

1.1. Early History

'Banking is of ancient origin, though little is known about it prior to the 13th Century.' [Encyclopaedia Britannica (15th Edition) (1986) (527)]. Many of the early banks dealt primarily in coins and bullion because their early business revolved around changing money and supplying foreign and domestic coin of the correct weight and fineness. Another important early group of banking institutions were merchant bankers, who dealt both in goods and in bills of exchange. A more pronounced procedure which developed around the 14th Century was the acceptance of deposits by banks. These were derived from the deposit of money or valuables for safekeeping or for purposes of transfer to another party. English bankers by the 17th Century, had refined the deposit banking business to include an interest rate payable for attracting coins and soon thereafter recognised the cheque and other bills of exchange. In 1664, The Bank of Stockholm was the first to introduce the practice of creating bank notes, in the form of negotiable certificates, in exchange for coins and other deposits. [Ibid (528)].

Earlier, in 1609, the structure of banking was revolutionised by the Bank of Amsterdam, which acted as a banker for the merchant traders, the Dutch East Indies Company. [Born (1984) (27)]. This bank first discovered the importance of being able to balance its cash liquidity with the risks associated with credit loans. This development arose when it was realised that, in a given period, only a portion of its borrowers and depositors would ask for their money in the form of cash (silver coins).

If the proportion were 50%, then the bank could safely create claims for nearly twice as much as the cash in the vaults; this is now recognised as 'fractional reserve banking'. That process of creating credit could continue so long as a sudden loss of confidence did not have large numbers of depositors demanding their cash resources at the same time. However, if too many borrowers failed to repay there was another danger, for the bank would be unable to meet its commitments.

In 1844 the fractional reserve banking system was legislated into existence with the passage, in the United Kingdom, of Peel's Bank Charter Act, named after the then Prime Minister Robert Peel. [Born (1984) (8)]. The Act was based on the Currency Theory of Ricardo and Lord Owenstone, which considered bank notes to be money and two thirds of the notes in circulation were to be covered by gold. "The fundamental and trend setting significance of the Peel's Bank Charter Act lay moreover in the fact that it paved the way for a central issuing bank in England". [Born (1984) (8)]. However, the risks associated with fractional banking were highlighted in the economic crises of 1847, 1857 and 1866 with the Bank of England's gold reserve "...[became] so badly depleted each time, that it had to ignore the cover regulations it had stipulated, to avoid denying the British economy credit". [Born (1984) (9)].

The United States (US) had no central issuing bank until the introduction of the Federal Reserve System in 1913 - 1914. [Born (1984) (176)]. In 1907, US banks suffered an economic crisis brought on by a massive failure in the copper commodity market. This crisis resulted, when a group of speculators brought eight banks under

their control to help finance their planned copper purchases. However, the price of copper dropped sharply, resulting in tremendous losses at these banks. [Born (1984) (180)] each one of the country's 274 banks acted independently to take preventative action as depositors lost faith in the banking system. Some had to suspend payments for weeks and months, while many other credit institutions accepted only partial cash withdrawals. However, by the time of the next major economic crisis -- the Great Depression of 1929 -- a central authority was already an established part of the US Federal Banking System and this allowed for a unified "reaction" strategy. It was the belief of banking authorities in the US, as well as those in the UK, that only a central authority could ensure a solid bank system. This led to the development of the 'lender of last resort' doctrine which, today, is an integral part of any reasonably sophisticated banking system.

Throughout the early 20th Century financial links between continents continued to be forged. The Bank of International Settlement (BIS), founded in 1930, began with the concept of a unified global financial structure which would facilitate transactions between central banks of individual countries. However, the role of the BIS has widened and now takes broader considerations into account, including the macroeconomic policies of individual member governments, their microeconomic policies, as well as economic growth rates and trade policies. The BIS also advises on the necessary conditions to create financial stability and goes even further to extend finance to developing nations which adhere to these guidelines. The recent standardisation of banking legislation worldwide, to regulate and supervise banking practices, has gained momentum from the BIS.

In 1944 at Bretton Woods the basic outlines of the post-war international monetary system were conceived. A currency exchange mechanism was structured, based on a revised Gold Standard, which fixed the exchange rate of 35 ounces of gold bullion for one USA dollar. The conference at Bretton Woods also introduced two multi-national monetary agencies, the International Monetary Fund (IMF) and the World Bank, whose tasks have been to encourage economic development, with financial support to less developed regions.

The increasing importance of a central bank, served to promote a period of sound banking practices worldwide. Robert E. Litan, in his Frank M. Engel lecture in 1991 noted:

"...it is no accident that the three most advanced economies in the world - the US, Europe and Japan - have the best developed financial systems,... since the Great Depression providing lender-of-last resort assistance to promote consumer confidence..." [Litan (1991) (4)].

1.2. A Revolution in Contemporary Banking.

In the decade of the 1980's, financial institutions began to adopt more flexible and competitive, increasingly risk related, strategies to gain higher returns. [Litan (1991) (9 - 11)]. Incompatibility had arisen between the structure of financial systems and the economic environment in which they operated, *inter alia*, as a combined result of

inflation, high interest rates, downward-sloping yield curves and myriad binding interest ceilings as well as other restrictions on the behaviour of financial institutions. [Federal Reserve Bank of New York Study (1992) (2)]. The necessity for financial institutions to adapt to these changes provided the platform for the introduction, in the US, of the Depository Institutions Deregulation and Monetary Control Act of 1980. The Act's primary objective was to move towards a more competitive financial system by relaxing or removing significant regulatory constraints at banks. Bank management responded by adopting a more competitive, free-market approach to the business of banking. Another introduction to the banking system, was the arrival of sophisticated technology. This development accelerated the speed with which information could be obtained; simultaneously there were advances in financial techniques, which offered superior risk/reward choices, *inter alia* in the option and future markets.

In the study by the Federal Reserve Bank of New York, it was noted that:

"Two developments in the 1980's contributed to financial innovation. The first was the ability of a bank to separate price (interest rate) and liquidity risk. The second was the greatly reduced cost of information processing, a change which allows financial firms to separate risk decisions from risk control and thus decentralise decision making"...[(1992) (10)]

Litan, *inter alia*, argues that the relaxation of banking laws culminated in the collapse

of the Savings & Loans institutions in the US in 1985. [Litan (1991) (9 - 11), (29 - 31)]. It has been estimated that this failure will cost the taxpayer about 260bn dollars in a payback package, being conducted through this decade, to repay depositors. [Waldman (1990) (63)].

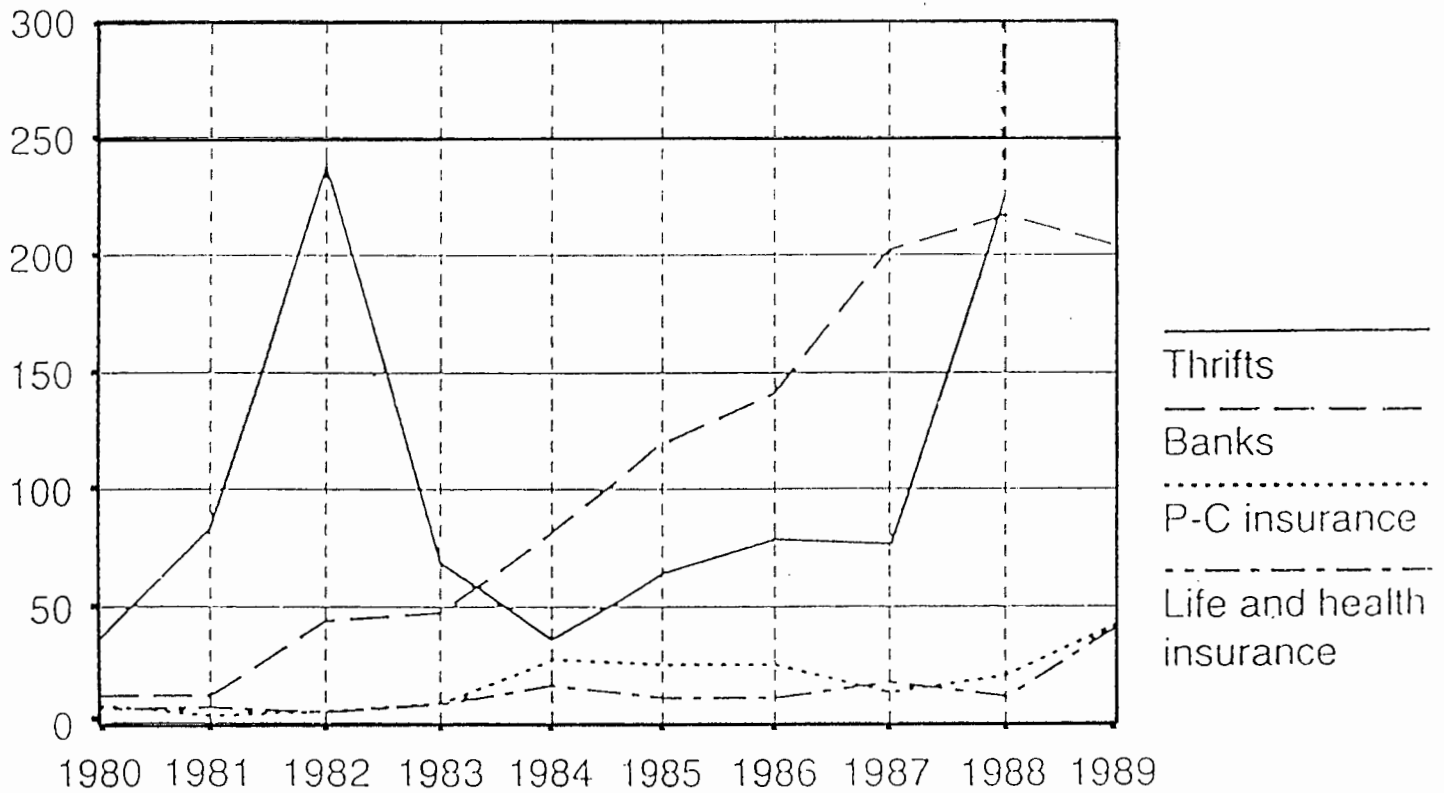
Litan commenting about this failure, said:

"...the banks and thrifts that lost hundreds
of billions of dollars of depositors' money in
the 1980's were obviously not run by prudent people.
In many cases, it seems, they were managed and owned
by crooks..." [(Litan) (1991) (1 - 2)]

1.3 Deposit Insurance

Deposit insurance was a fixture by the 1980's in the US. However this was not necessarily a safety mechanism and instead induced a moral hazard, as banks and saving institutions took on greater risk. Citing an example from Waldman [(1990) (44)], depositors at S & L's claimed \$300m from the Federal Savings and Loans Deposit Insurance Corporation (FDIC) between 1934 and 1979, while in the 1980's alone this increased to \$60 billion. The protection created by deposit insurance was being offset by the abuse of the insurance system. [Litan (1991) (5)]. This highlighted what could happen if the financial intermediation process was left alone to self-regulation, as the failure rate of financial institutions in the US soared [see Fig 1].

Figure 1: Number of Failed Financial Institutions, 1980-89



Source: [Litan (1991) (10)]

In South Africa at present there is no deposit insurance, although the South African Reserve Bank (SARB) has always accepted its responsibility as the ultimate lender of last resort. In addition, there is evidence it provided some protection for depositor funds held at failed financial institutions. Specifically, in 1991, the SARB extended a loan at virtually a zero interest rate to the troubled financial institution Bankorp and in the same time period, paid out depositors, after the liquidation of Pretoria bank. The

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"The ultimate decision whether or not to assist
a bank in financial distress will rest on the
extent to which the bank system is endangered and
on the availability of some form of deposit insurance
scheme for small depositors."

A formalised deposit insurance system, in the US, contrasts with the covert approach to supporting depositors, which has been adopted by South Africa and most other nations. In addition, the US financial system has evolved with distinct variations to those systems in operation in the rest of the world. The most noticeable disparity is the fact that US banks have always adopted 'niche related' strategies. This is because US banks were prevented from expanding across state lines. Moreover institutional growth was inhibited because US banks were not permitted to hold equity

stakes in other companies and the deposit regulation agencies went as far as to limit branch operations; and finally, as a result of the introduction of different types of financial services companies, which occurred more rapidly and earlier, in the US, than elsewhere. [Litan (1991) (21 - 24)].

In the late 1980's the US joined with Japan and most Western European countries to standardise and supervise banks, in the Basle Accord. This Accord regiments, on a universal basis, capital adequacy requirements, associated with risk at financial institutions. Furthermore, the new Accords provide for bank holding companies, to diversify and grow through mergers and acquisitions in financial and non financial areas of expansion. [Litan (1991) (45)]

CHAPTER 2:- SOUTH AFRICAN BANKING AND THE ARRIVAL OF THE DTI ACT

2.1. Early History

The South African financial system has evolved from a situation whereby a shortage of coins existed in the country in 1793 so that coins had to be imported from Europe, to a situation 200 years later in 1993, whereby Automatic Teller Machines dispense the monetary unit of exchange. [Kelly (1993)] The first South African bank, called the Lombard or Loan Bank, was set up in the Cape colony in 1793, introducing paper money to Southern Africa to overcome the coin shortage. The Bank's primary function, at that time, was to dispense the notes which the government had issued.

In the period from 1836 to 1861, 29 joint-stock finance companies were formed in the Cape Colony, the first being the Cape of Good Hope Bank in 1836. These financial institutions were under no obligation to furnish financial statements and all were entitled to issue notes without legal restriction. [Arnat (1928)]

In 1861 the so-called Imperial banks, of European origin, entered the country and in 1877 the Standard Bank of SA, with its parent company in Great Britain, was formed. Another banking institution of note to be formed in this period was the Nederlandsche Bank en Crediet Vereeniging voort Zuid-Afrika, renamed Nedbank in 1971 and De Nationale Bank Der Zuid-Afrikaansche Republiek Beperk, now First National Bank Ltd. [Arnat (1928)]

In 1893 the first building society was formed with the amalgamation of three existing

savings institutions to form the United Building Society. Much later in 1991, the United Building Society merged with Volkskas Bank and Allied Building Society to form the Amalgamated Banks of South Africa Ltd (ABSA). The South African Reserve Bank was founded in 1921 to fulfil its role as the protector of the external and internal valuation of the domestic currency and to ensure that a sound banking system prevailed. [Arnat (1928)] Prior to 1949 there were virtually no facilities in South Africa for placing short term funds and most of these investments were placed on the UK money market. In 1949 the National Finance Corporation was introduced to provide call money facilities and in 1955 the first merchant bank, Union Acceptances Ltd (UAL), was formed. UAL is now a division of the Nedcor Bank Group Ltd. In 1957 a National Discount House was established and in 1958 the first treasury bill tender began. Commercial bank instruments, such as Negotiable Certificates of Deposits (NCD's), appeared in 1964. During this period bank regulation included the use of credit ceilings to curtail credit demand. The disintermediation process was encouraged and a large amount of bank activity took place off the balance sheet. [Kelly (1993)] Deregulation from 1980 included the abolition of bank credit ceilings and in 1983 the Registrar of Cooperation (Roco), which endorsed the fixing of bank charges, was abolished. Further as mentioned in Meijer [(1985) (40)]:

"...Low rates and yields on money market instruments relative to the commercial banks' prime and overdraft rates had been a prime element in accounting for the disintermediation phenomena. Conversely, comparatively high money market rates encouraged re-intermediation from late 1980."

All these factors encouraged re-intermediation and intensified the competition for funds in the financial services industry. An overlap soon became apparent in the hitherto mutually exclusive businesses of a bank, which was recognised as a commercial and retail institution and a building society, which concentrated specifically on home loan finance. The De Kock Report [(1985)] was "the starting point for levelling the playing fields between banks and building societies". [Rogers (1985) (70)]. This was finally achieved with the introduction of the Deposit Taking Institutions (DTI) Act on February 1 1991.

2.2. The DTI Act

The DTI Act was modelled on the banking act implemented in the United Kingdom, but was also based on the worldwide movement towards a more regulated banking system, as drafted in the Basle Accord. The Savings & Loans insolvencies and the Bank of International Credit & Commerce collapse were sufficiently significant in their impact, on a global scale, to warn of the dire problems associated with self-regulation in bank and allied industries. In South Africa, in 1990, poor credit and risk management policies led to the liquidation of Cape Investment Bank (CIB) and Alpha Bank, with Pretoria Bank and the Masterbond Group to follow in 1991. Masterbond is the country's largest financial disaster to date, with in excess of R1 billion in investment funds previously under its administration. [Ochse Report (1993)]

2.2.1 Discount Houses

The DTI Act has introduced a new era of tighter bank controls in South Africa. It can be considered as an all-encompassing act for Banks, Building Societies and Discount

Houses. The changes from the old system are manifold and intended to ensure added efficiency and enforce a conservative banking policy. One Act now governs three major pillars of the financial services sector. [DTI Act (1990)] Discount houses, the intermediary station between the SA Reserve Bank and commercial banks, have been eliminated. Their function was to buy predominantly financial paper, mostly bankers acceptances', at a price (discount) and pass these negotiable instruments along to the SA Reserve Bank (SARB). This route was mostly shortcircuited, as the commercial banks invariably used the wholesale money market, or alternatively went directly to the SARB. [Gidlow (1985)] The government recognised the redundant role of discount houses, by including them with banks and building societies, under the new DTI Act. Discount Houses were previously governed by an appendage to the old Banks Act of 1965.

2.2.2. Building Societies

The second component part of the DTI Act was that regulating Building Societies. These institutions were guided by the Mutual Societies Act until 1987 after which an additional Act, allowing for incorporations by mutual companies, was introduced. The main distinction between these two Acts is that the Mutual members, as holders of a mutual financial product, own the share capital while the Incorporations Act allows for public capital issues through JSE listings. Immediately thereafter, Allied Building Society, United Building Society (UBS), Natal Building Society (NBS) and Saambou Building Society went public with a listing on the Johannesburg Exchange. In 1988 an amendment to the Mutual Societies Act made provision for banks to become controlling stakeholders in a mutual society. Incorporated societies were previously

restricted to funding 30% of their deposits in the short term, because of the long term nature of home loan business. The new DTI laws allow incorporated societies to set their own overall funding mix.

2.2.3 Banks

Banks had the lightest regulatory treatment under the old Banks Act. Cape Investment Bank in its annual results reported sound profits (Cape Times 14 September 1990) yet soon thereafter was placed in provisional liquidation. The reason for this anomalous treatment was based on the fact that banks historically had the protection of limited disclosure, which allowed them to reveal profits after cash flows to internal reserves. Income was allowed to flow unreported off financial statements to boost these reserves, which remained unrecorded and could, in turn, be used to inflate the earnings of a bank. The balance sheet of a financial institution revealed merely a rough asset and liability outline. The new Deposit Taking Act requires detailed information on, among others, these inner transfers to distributable and non-distributable reserves and, more importantly, banks must now reveal their trade/risk positions in the capital, money and derivative markets. Under Section 73 (1) of the DTI Act the full board of directors of a bank is required to give its prior approval for each large exposure contemplated by the institution. This has been further amended so that the credit committee, of the institution, may also grant permission. Section 73 (2) makes it clear that the registrar's approval is not required for any decision of management concerning a large exposure. The decision on the appropriate level of risk thus rests with the shareholders of the bank. In this regard in South Africa most publicly-listed bank groups have an equity participation scheme

for their management and, in the case of the Investec Bank Group Ltd, it is, essentially, a manager-owned institution.

2.2.4. Off-balance Sheet Activities

In addition the new laws also strengthened legislation regarding repurchase agreements (repos). [DTI Act (1990)] A loophole in the previous Act allowed trade without detection in, among others, 'repos' and off balance sheet loans. A simple addition to the DTI Act forces banks to identify all assets, even those so-called off-balance sheet assets or repurchase agreements, thereby effectively outlawing such activity.

2.2.5. Moneybrokers

The DTI Act is specifically aimed at deposit takers and this now also includes moneybroking intermediaries, which had previously fallen beyond the ambit of the old Banks Act. Furthermore, a strict interpretation of this law means that trust funds held at professional brokers, such as legal and accountancy firms, fall under the auspices of the DTI Act. The Policy Board for Financial Services & Regulation has recommended that these professional brokers should be allowed to follow the dictates of their own professional guidelines but with some security, in the form of deposit insurance, which is still being debated. A further recommendation is that the SARB should now incorporate the Financial Services Board (FSB). The FSB regulates short and long term insurance, pension funds, unit trusts, participation bond schemes and portfolio management companies. Legislation for these sub-groups is also presently being debated. The regulation and supervision of banks, previously the responsibility of the SARB, will now be included in the duties of the FSB.

2.2.6. Reserve Requirements

From a technical perspective, the DTI Act emphasises risk management on both the asset and liability side of the balance sheet. [DTI Act (1990)] A 4% capital reserve requirement has been set for less risky assets, such as mortgage loans, while an 8% penalty applies for higher risk assets. The new conditions are tougher than the old guidelines because, although some risk assets previously required a 10% backing the average was only 4%. The reserve requirement is now on average much higher -- an 8% requirement. The phase-in process for capital asset requirements, besides mortgage loans, is 4.5% in 1991, 5% and 1992, 6% in 1993, 7% in 1994 and fully phased in at 8% of capital to asset holdings in 1995. Mortgage loans will carry half these capital requirements in each year. This implies that the actual required weighting, once fully phased in, is 100% for a risk asset, 50% for a mortgage loan and zero for cash balances and short dated stock. On the liability side the structure is more compact and as a result there is greater efficiency. Previously liabilities were split into three bands: the short term (31 days), medium term (32 days to one year) and long term (beyond one year). In each of these periods, previously, the stipulated cash reserve requirements were 5% and the liquid requirements were 20%. This ratio was reduced to 2% and 15% respectively, in the medium term. In the long term there were no cash reserve requirements but there was a 5% liquid asset requirement. The arrival of the DTI Act sees the different time bands fall away. Short term cash reserves now carry a 4% capital backing, kept as a balance with the Reserve bank, while liquid asset holdings have a 20% requirement. No further restrictions are deemed necessary in either the medium term or long term.

2.2.7. Increase in Permissible Bank Shareholdings

Another introduction under the DTI Act is the increase in permissible stakes in approved finance companies. Historically, under section 37 of the old Banks Act:

"...the permission of the Registrar had to be obtained if a proposed acquisition of shares in a bank or controlling company would render the applicant's shareholding, together with any shares already held by him or his associates, in excess of 10% of all issued shares of the bank or controlling company. This process had to be repeated when further proposed acquisitions of such shares would cause the person's shareholding to exceed 17,5%, thereafter at 25% and following from that at 30%".

In the last mentioned case permission of the Finance Minister was required. The initial limit has, under Section 37 of the DTI Act, been increased to a 15% shareholding, the intermediate stage of 17,5% has been left out and special permission of the Finance minister is now only required once more than 49% of a bank or controlling company's issued shares were acquired by any person and further permission is required when increasing that shareholding beyond a 74% stake. A Bank Holding Company (BHC) may now purchase another bank, building society and/or discount house, after meeting the requirements laid down in Section 30(a) and Section 37 of the Act. In addition, after fulfilling certain requirements as detailed in

Section 73 and 74 of the Act, a BHC may take up as much as a 49% stake in a non-bank financial institution.

Further, In April 1991, the then Finance Minister Mr Barend du Plessis announced that ownership rules would be further relaxed, which would encourage overseas investment in this country and outward investment by domestic banks. The change from previously strict ownership conditions in the banking sector has increased the concentration of bank groups in the industry. The monetary authorities have encouraged this merger and acquisition trend, stating openly that the policy of the SARB is to encourage greater concentration in the private banking arena to provide:

"A solid shell around the SARB" (Cape Times 4 February 1991).

A final introduction which has occurred in recent times, and been incorporated in the SA Government's Budget of 1991, is a new form of Value Added Tax requiring banks to charge their customers an additional 0,75% further tax on interest income. The application of this tax was subsequently revised to permit banks to calculate the 0,75% tax on the fully phased in capital required, in each transaction. In 1992 a regulatory framework for commercial paper and securitisation was formally established to enhance the ability of domestic banks to undertake international finance transactions. In 1993 the 'DTI Act' reverted back to being named the 'Banks Act'.

CHAPTER 3:- A CRITIQUE ON BANK THEORY

The DTI Act should be seen in the context of the contemporary findings of bank theory.

3.1. Deposit Insurance Theory

In recent years two important studies on the theory of the banking firm have been developed. Both purport to predict relationships between the size of banks and their performance. One substantial theory concerns bank behaviour in the presence of deposit insurance and the effect that such insurance has on bank decisions. Fundamental arguments by, for example, Merton [(1977)], Kareken and Wallace [(1978)], Sharpe [(1978)], Flannery [(1989)] and Chan, Greenbaum and Thakor [(1992)] are that deposit insurance produces an incentive for insured banks to take on more risk. Theoretically in fact this approach pushes banks to cornerstone solutions, taking as much risk as they can, for example through financial leverage (gearing). Banks in this context are viewed as portfolios of risky claims. Their production technologies are unimportant and size plays no role in the theory. The extrapolated theory suggests that large bank failures are supposedly more feared than small bank failures, since the big bank failures are more likely to result in larger macroeconomic externalities. This leads to a "too big to fail" policy, with the liabilities of very large banks being *de facto* guaranteed. Banking authorities do not permit large banks to default on debt, based on the understanding that creditors of the bank will be reimbursed by the government and/or central bank. Asymmetrical support for big banks, according to this theory, allows big banks to receive a greater net subsidy than do smaller banks.

3.2. Modern Intermediation Theory

Another recent study, Modern Intermediation Theory, deals with the economic role of banking firms in an environment in which agents are asymmetrically informed. This theory predicts that large intermediary firms will be less likely to fail than small intermediaries because of economic, and – some argue – social, efficiency gains related to size. The 'social aspect' comes from a bigger bank's ability to provide, *inter alia*, more jobs with greater employee security and benefits. Scale efficiencies at banks are covered in literature including studies by Diamond [(1984)], Ramakrishnan and Thakor [(1984)], Boyd and Prescott [(1986)], Williamson [(1986)] and Allen [(1990)]. In this theory, the advantage of size is that it means that the intermediary can contract with a large number of borrowers and lenders. Large numbers are assumed to result in diversification, which is valuable because it reduces the cost of contracting with asymmetrically informed agents. Diversification is even more valuable when agents are risk averse. In such an environment diversification remains valuable, even where agents are all risk neutral, because of *inter alia* the lower costs attached to contracting with many asymmetrically informed agents. [Diamond (1984)]

In many models it is assumed that borrowers, but not lenders costlessly observe investment return realizations. Uncertainty about return realizations is undesirable, and bad realizations trigger costly information production. The argument is that a diversified bank group reduces the costs of information production. A further argument is that if a large number of different investments are made in a single

intermediary, pooled risk is reduced or eliminated. What is predicted, then, is an inverse relationship between size and the probability of failure. In addition, diversification reduces the *ex ante* expected costs of overcoming information asymmetries. This results in cost savings which are realized whether or not failure occurs. The precise link between diversification and intermediation costs is, to some extent, model specific. In Diamond [(1984)], for example, contracting with many agents reduces the *ex ante* costs of verification. In Boyd and Prescott [(1986)], intermediaries produce information about the return distributions of investment projects before funding them. In that environment, large scale not only reduces contracting costs, it also permits intermediaries to fund the more profitable investments across a broader spectrum of alternative projects.

The broadly defined Modern Intermediation Theory predicts that large banking firms will be less likely to fail and more cost efficient than small banking firms. One deficiency of Modern Intermediation Theory is that it has not provided adequate attention to the choice variable which partially determines the probability of failure, the return on assets.

3.3. The Boyd-Runkle Study

There have been a number of studies testing these two above-mentioned major schools of banking thought. The most recent is by John H. Boyd and David Runkle [(1993)], who tested the predictions of both theories using a sample of 122 American banks for the period from 1971 to 1990. This paper will be described in greater detail since my testing of the SA bank industry was guided to some degree by this study.

The banks used in the Boyd/Runkle test are, specifically, bank holding companies (BHC's), which, the authors argue, permits diversification because, as a parent organisation, it controls one or more banking subsidiaries and often nonbank financial intermediaries as well. This structure provides opportunities for diversification not available to an individual bank. Their approach has the obvious advantage of ease of interpretation because straightforward univariate procedures are used. They argue that if the scale effects are sufficiently large to be of much interest, they should clearly be reflected in a market valuation. The market valuation is based on the return distribution of an individual bank holding company, as determined by Tobin's q . Tobin's q is defined as the market value of the firm's assets as a fraction of the accounting value of equity plus the accounting value of total liabilities, which is equivalent to the replacement value of assets. These calculations are considered by Boyd/Runkle to be accurate because the overwhelming majority of bank liabilities are considered to be short term deposits. For such deposits, book value is a close approximation to the market value. In addition, relatively few bank assets are plant and equipment. Therefore the major deviation in the asset book value, from replacement value, is likely to occur in the loan and bond portfolios. A bank is considered to have failed in this environment when the return on assets becomes negative. Return on assets is defined as the market value of profit over the market value of assets. The market value of profit, in turn, is defined as the dividend payment in the current time period plus the share capital appreciation between the prior and current period. A probability distribution measures the likelihood of failure, which is the risk factor, determined by the volatility of asset returns over a twenty year period. Boyd/Runkle divide the banks into four size classes, and banks with total

assets of less than one billion dollars are excluded. The smallest category is between \$1 billion and \$3 billion and the largest category represents banks with assets of over \$15 billion. The various size categories are measured against Tobin's q , return on assets and the standard deviation based on the volatility of the distribution of returns. They find that the smallest and second smallest categories of banks provided the highest return on assets and these two categories also had the highest return based on Tobin's q . The two largest size categories had a slightly less volatile return distribution over the twenty year period. The next step in their methodology was to regress these individual firm statistics over the natural logarithm of total assets, to provide a linear equation. The results showed in fact a negative relationship. However Boyd and Runkle point out that this test may be "spurious" [(1993) (53)] because many of the smaller banks had very poor disclosures in the first part of the sample. They then split the 20-year time period into two equal parts and there is still no evidence that the smaller banks benefited from the limited disclosure, to enable them, to perform better in the first time period. In addition large bank failure rates were consistently higher than small bank failure rates in the sample period. For all class sizes there was a much higher failure rate in the 1980's, than the 1970's.

Their results show that no evidence exists to support the theory that large banking firms are less likely to fail, than are smaller banks. However, the data did show that an inverse relationship existed between size and volatility of asset returns, consistent with the predictions of Modern Intermediation Theory. Boyd and Runkle argued that this was because an inverse relationship exists between size and two other variables

– the rate of return on assets and the ratio of equity of assets. In other words, larger banking firms are proportionately less profitable in terms of asset returns and proportionately more highly leveraged. Finally they found no evidence of a positive relationship between size and market valuation.

3.3.1. Support for Boyd/Runkle Findings

These findings have had support from work done by Kuester and O'Brien [(1990)], who found that the standard deviation of 225 bank holding companies had a negative relationship with size. Keeley [(1990)] found no significant relationship between size and Tobin's q, as defined. In addition, the regression by Keeley included several more explanatory variables, besides time period and size. However a study conducted by O'Hare and Shaw [(1990)] concluded that equity investors preferred, and therefore placed more value on, banks that would benefit from the 'too big to fail' policy.

3.4. Merger Theory

3.4.1. Inter-Bank Mergers

Another important issue surrounding financial institutions is the effect of bank mergers and more particularly mergers between large institutions. Most studies of bank merger efficiencies compare simple pre-merger and post-merger financial ratios, such as operating costs divided by total assets, or the return on equity or assets. Recent studies covering the above include Roades [(1990)] and Linder and Crane [(1990)] who concentrated on input costs benefits from a bank merger. Savage [(1991)] simulated the pre and post-merger costs of a hypothetical merger using a cost

function to determine the potential effects of merger costs. All these studies found no benefits, on average, from mergers. However, Cornett and Tehranian [(1992)] and Spindt and Tarhan [(1992)] found a positive correlation between the measurement of output (revenue) and the benefits arising from a bank merger. Burger and Humphrey [(1992)], using a production frontier method to determine the efficiency effects of bank mergers, found insignificant benefits from bank mergers. Furthermore, they also found that this insignificance remained, even when the merging banks were in the same market. Roades [(1993)] analyzed 898 horizontal bank mergers. His test also included a sample of banks that did not merge and both sample sets were analyzed, according to their performance, when measured against a simple expense ratio. No cost efficiency benefits were found from bank mergers, again, even with so-called in-market mergers.

Shaffers [(1993)] explored the source of future potential efficiency changes at bank institutions. He found that branch closures in the 210 bank merger study would have a very small absolute effect on total costs. However, he argued that if managerial efficiencies could be transferred between merged banks, then cost savings would be large. The author points out that the results suggest that scrutiny be given to managerial talents of the acquiring bank prior to a merger. Fixler and Zieschang [(1993)] measured the productivity of bank mergers based on a value-weighted output index divided by a value-weighted input index. This method is equivalent to assuming that each bank has its own technology and thus measure efficiency gains, which come from comparing the quality of these technologies. They find that acquiring banks are 40% to 50% more efficient than other banks prior to merging and

they maintain that advantage in the years after the merger. This suggested that acquisition activity boosts the productivity and efficiency of the industry. One reason for Fixler and Zieschang's positive results on bank mergers is based on the revenue impact in the output index. Berger *et al* [(1993)] found that the difference in the output efficiency had a larger impact on the profitability function than on the input efficiency differences.

3.4.2. Bank and Nonbank Mergers

A merger between bank and nonbank activities has also been studied in depth. Larry Wall [(1987)], working with accounting data of 267 BHC's between 1976 and 1984, found that the probability of failure is greater in a nonbank subsidiary than in a bank subsidiary. However, he showed that due to the diversification effects -- the risk of BHC failure either does not change or declines "a bit" [(1987) (27)] as nonbanking activities increase in importance. Litan [(1985)] argued that mergers of banks with nonbanks would be potentially risk reducing if the coefficient of variation for the nonbanking industry is small relative to that of the banking industry and if the coefficient between nonbank and bank earnings is negative. Results of the actual testing of this hypothesis were mixed. Kwast [(1989)] and Rosen [(1989)] showed that the diversification gains from nonbank assets is relatively small. Kwast used the proxy of securities trading activities and found that the maximum diversification benefits were attained when nonbank securities, as a share of bank assets, ranged from zero to nine percent. Rosen studied the aspect of a bank and a real estate merger, which revealed no diversification benefits beyond four percent of real estate assets. A counter argument by US's Federal Reserve Chairman Alan Greenspan

[(1991)], for example, suggested that financial transactions can be quantitatively limited and fully collateralized while achieving the desired synergies in managerial, operational and marketing areas.

John Boyd, Stanley Graham and Shawn Hewitt [(1992)] attempted to answer the question of whether BHC's should be permitted to enter nonbank activities, as the expanded non-banking powers could impact on BHC risk. Boyd *et al* argued that, on the one hand, portfolio diversification theory suggests that expanded powers would reduce the risk at a BHC. Yet, on the other hand, if the sought-after activity is inherently riskier than banking, the benefits from diversification could become negative, thereby increasing the risk of BHC failure.

The authors point out that the relevance of this issue is based on the collapse of the Savings & Loans institutions in the US, where many firms in that industry used their new power in a way that increased risk. In their paper, mergers with life assurance companies were considered to reduce risk but mergers between BHC's and securities firms or real estate firms increased risk. The test was based on the risk effects of BHC entry into the above-mentioned industries. The test consisted of simulating mergers between banks and nonbanks and calculating certain risk measures and then comparing those risk characteristics with actual unmerged BHC's. Different portfolio weight tests were also conducted in the simulated merger between a bank and a nonbank. The simulation showed that mergers between bank and nonbank subsidiaries, defined as – securities firms, real estate and insurance broking – increased BHC risk at virtually any portfolio weight. The simulation with

two other industries, life assurance and the allied property/casualty insurance, suggests that with a correct portfolio weight, risk-reducing diversification is possible. The authors conclusion was that those making public policy could minimize the risk of bank failure by only permitting BHC's to acquire life and property/casualty insurance firms, whilst prohibiting them from acquiring securities and real estate firms.

3.5. Bank Performance Analysis

3.5.1. Fundamental Analysis

Another crucial issue in studies on the banking industry is the measurement of bank performance. A comprehensive fundamental study was conducted by Robert C. Jones [(1991)] to determine which component factors of a multi-factor model had the greatest impact on the broad spectrum of industry. Subgroups were defined by industrial sector for the sample period, 1969 to 1987. The component factors were value factors, yield factors, momentum factors, growth factors, risk factors and liquidity factors. All were then equally weighted to provide for the multi-factor model. The finance sector proved the most receptive to the value factors, in particular the so-called K ratio, which is a propriety evaluation of a bank by comparing its fundamentals with that of the market valuation, defined here as price to earnings ratio. Another effective discriminator was the negative relationship of bank performance and risk, based on a 36-month regression of bank stock returns. The multi-factor model ranked number one among all sectors and was an effective discriminator in the finance sector. Jones points out that the finance sector has few effective discriminators.

3.5.2 Technical Analysis

Bank literature has started to move away from the sample use of financial ratios in the evaluation of a bank. A new focus is on scale efficiencies at a bank or the quest for Pareto Optimal technical and allocative efficient points on a firm's cost and revenue curves; this is called X-efficiency. Work on scale efficiency suggests that the average cost function at a bank is relatively flat, with medium sized firms being slightly more scale efficient than either very large or very small firms [Humphrey (1990)]. In practical studies in the US, average costs were minimized at between \$75m and \$100m for banks with assets of under one billion dollars. Berger *et al* [(1987)], using assets of over one billion dollars, found that the most efficient scale was between \$2bn and \$10bn. Another recent approach to ranking, more specifically concerning commercial banks, was conducted by Piyu Yue [(1992)]. Yue used a mathematical programming methodology, called Data Enveloping Analysis, to test the scale efficiencies at 60 Missouri commercial banks for the period from 1984 to 1990. Yue defines economic efficiency in this test to be an optimal mix of inputs to create an optimal output on a particular bank's production frontier. This methodology has proved significant in analysing a bank's financial condition and management performance. Yue points out that for statistical significance, in this type of testing, the selection of inputs and outputs is essential. An intermediary approach to financial institutions is to treat them as borrowing funds from depositors and lending them to others for profits. In these studies, such as in Hancock [(1989)], outputs are loans and the inputs are the various costs of these funds, including interest expense, labour, capital and operating costs. Another approach viewed banks as institutions that use capital and labour to produce loans and deposit account services. In these

studies the bank's outputs are their accounts and transactions, while their inputs are labour, capital and operating costs. The bank's interest expenses are excluded in these studies. Yue used variants of the intermediary approach where inputs are interest expenses, transaction deposits and non-transaction deposits and the outputs are interest income, non-interest income and non-transactions deposits. These choice variables provided significant results. Another finding by Yue, based on these tests, is that scale inefficiencies are not an overall major source of inefficiency at banks. Yue pointed out that banks simply use too few outputs or too many inputs rather than choose the incorrect scale for production. Similar results of insignificant scale-inefficiency at US banks have been reported [Aly *et al* (1990)].

3.5.3. The Problem of Smoothed Earnings in Analysis

The problem of measuring performance at a bank has always been impeded by a bank's ability to smooth earnings. Mary Barth, William Beaver and Mark Wolfson [(1992)] examined the relationship between common stock prices and two major components of bank earnings, securities gains and losses and earnings before securities gains and losses. The authors point out that the banking sector is a good sector for modelling this relationship because the asset and liability structure of firms in the industry are relatively homogenous. They focus on the link between a bank's stock price and its earnings, using bank stock prices as the dependant variable; the explanatory variables were securities gains and losses and earnings before securities gains and losses. Earnings before securities gains and losses arise primarily from the deposit and lending activities, with the earnings from this component varying with the levels of interest rate returns or interest rate spreads. In contrast, securities gains

and losses essentially consist of changes in the market value of investment securities since their purchase date. Based on the authors' finding, income from investment securities was more volatile and transitory than the other component of earnings. Their sample consists of 150 large US banks in the 20 year period from 1968 to 1987. The tests by Barth *et al* showed that the median value for earnings before securities gains and losses was stable and constant over this time period, while the returns from securities gains and losses were erratic. The behaviour of the latter, the authors mentioned, is consistent with the contention that the expected value of this component is zero. Smoothing of earnings is examined by gauging whether changes occur at a time when the two components are inversely related, one high the other low and vice versa. In most of the sample period when earnings before securities gains was below the mean, securities gains and losses was above the mean and vice versa. Barth *et al* contended that this behaviour accords with the smoothing hypothesis of bank earnings. A further finding was that securities gains and losses were perceived by the market to smooth earnings and therefore securities gains and losses had a negative correlation with share prices and the coefficient of earnings before securities gains and losses was positive and significant throughout the period. The authors concluded that the marginal impact on share prices from greater than expected realised security gains are seen by the market as "bad news rather than good news". [Barth *et al* (1992) (24)]

3.6 Public Policy Impact

Another consideration in modelling the bank sector is the impact of public policy on an institution. Most literature shows a strong significant link between the declaration

of public policy and the impact on an institution and its stockholders. Zarruk and Madura [(1992)] showed that optimal interest margins at a bank are affected by changes in that bank's regulatory parameters. The variables used for modelling purposes were the capital to deposits ratio and deposit insurance. They found that an increase in the capital to deposits ratio decreased the bank's margin under non-increasing risk aversion. Similarly an increase in the cost of deposit insurance (through higher premiums) reduced optimal interest margins, given constant risk aversion. The authors argued that these effects were relevant considerations in any restructuring of the financial regulatory process. Another study by Dale K. Osborne and Tarek Zaher [(1992)] found a statistically high relationship the following day, after a statutory announcement of a decrease in capital reserve requirements, at a bank and the rise in the price of bank stock. O'Hare and Shaw [(1990)] showed that public policy commitment to support banks, based on the "too big to fail" doctrine, had a larger immediate impact on the share prices of bigger banks in the US.

3.7. Organisational Structure Theory

A final aspect being researched is the most efficient organizational structure of a bank institution. These studies aim at finding the determinants of the allocative and technical efficiencies, X-efficiencies, at a bank. An early study conducted by Fama and Jensen [(1993)] showed that mutual finance companies would have greater problems associated with the principal-agent relationship because of the greater separation of ownership and management control.

However, Mester [(1993)] showed that mutual savings and loans institutions were

more efficient than the stock S & L's, for the same general reasons, which included the absence of effective monitoring. His findings were prejudiced, as the sample period was during the collapse of the industry. Pi and Timme [(1993)] argued that agency costs may be affected when decision management and decision control are unified. They used the example of the CEO, who is generally endowed with the most power in the decision management process. On the other hand, the Board of Directors headed by the chairman, is involved in decision control through monitoring and implementation. The concentration of this power in one individual would lead to principal and agent conflicts. Pi and Timme found that this affiliation of the Chairman-CEO is associated with lower efficiency, consistent with expectations. They also reported that X-efficiency is positively related to a Nonchairman-CEO relationship. They further suggested that team structure is of more importance for X-efficiency than a large stockholding by an institution.

Grabowski *et al* [(1993)] tested research on decentralised control structures and the efficiency of the branch banking system relative to that of the multibank holding companies. Branch banking proved consistently more efficient than multibank holding companies. The authors suggested that both used the correct amount of inputs for overall allocative efficiency but that branch banks have a much higher degree of pure technical efficiency, which they say suggested their ability to contain costs better than multibanks. Finally, Fare and Primont [(1993)] showed that a single-unit organizational firm, such as a commercial bank that directly operates a network of branches, is more efficient than a multi-unit organization.

In summary, the latest bank literature studies have dispelled the argument that bigger banks will necessarily achieve a better performance than small banks. In addition, a number of studies have shown that a bank merger is not an efficient vehicle for effective growth, as measured by the combined inputs. However, a positive contribution to the new bank grouping could be realised based on an output assessment. It should be mentioned that results are not conclusive in this regard. Boyd *et al* [(1992)] recommended that public policy should go as far as curtailing mergers between banks and certain nonbanks because of the undue risk attached to such an association. Furthermore, fundamental studies have shown that the price to earnings ratio is the most effective discriminator in the banking industry [Jones (1992)]. Barth *et al* [(1992)] showed that smoothed earnings at a bank were anticipated by share market analysis and therefore the release of a bank's earnings performance had little impact on the share price. Finally, studies on the industry have shown that there is the need for a bank operation to adopt a decentralised approach, to the dissemination of information. The most effective manner of achieving this, according to Fare and Primont [(1993)], is through a branch network system.

The critique on bank theory sets the stage for the next chapter, which records the actual mergers and acquisitions that occurred in the South African banking industry, most noticeably, after the introduction of the DTI Act. The theory has further relevance in the final chapter, when a comparison is made between the performance of a big bank and small bank sample in South Africa, between 1988 and 1992.

CHAPTER 4:- TESTING THE HYPOTHESIS THAT THE DTI ACT ENCOURAGED THE TREND TOWARDS BIGGER BANKS IN SOUTH AFRICA

4.1. Introduction

The year 1991 could be considered as the 'watershed' year for the vast changes that took place in the financial services industry. The De Kock Commission Report [(1985)], in conjunction with the Basle Accords [(1988)] and the DTI Act [(1990)] irrevocably altered South African banking and allied financial industries. The DTI Act led to heightened restrictions on capital requirements [DTI Act (1990)], with the average capital-to-asset weighting now double the previous requirement, increasing to eight percent. In addition, the loosening of ownership criteria meant that those financial institutions with a shortage of capital were highly susceptible to take-over bids [Jesse (1991) (11)].

4.2. The Bank Sample

In this paper, six South African banks will represent the sample for comparison and analysis purposes, during the period 1988 to 1992.

The three large banks chosen have total assets greater than or equal to R45bn. They are:

1. Standard Bank Investment Corporation (Stanbic)
2. First National Bank (FNB)

3. Nedbank Corporation (Nedcor)

The three medium to small banks chosen have total assets between R3bn and R9bn.

They are:

1. Investec Bank Group
2. NBS Bank Group
3. Boland Bank Group

All these bank groups are publicly listed on the Johannesburg Stock Exchange (JSE) and all are Bank Holding Companies (BHC's). Following from Boyd & Runkle [(1993) (40)] a BHC is considered the correct vehicle for analysis because it covers a broad array of financial services and also takes into account the possibility of diversification to nonbank subsidiaries. Moreover, a latterday BHC in South Africa should be considered as a complete general bank group which is able to supply, *inter alia*, life assurance, bank and building society products. [(Jesse (1991))]

The initial hypothesis to be tested is that the DTI Act encouraged the trend towards larger bank groupings in South Africa. In this context each bank forming part of the sample will be analyzed separately to determine the extent of its organic growth and/or its growth through acquisitions and mergers.

4.3. Survey of Big Banks

4.3.1. Standard Bank Investment Corporation (Stanbic)

Standard Bank Investment Corporation (Stanbic), at the time of passage of the

DTI Act, was jointly controlled at the holding company level by Stanbic shareholders and Liberty Life Group Chairman Donald Gordon. This provided Stanbic with indirect access to Liberty's subsidiaries; for example, to its controlling stake in British life assurer SunLife and French life assurer UAP Assurance. Standard Bank developed a home loan division through organic growth rather than by acquiring a building society-type institution. The introduction of the unique 'Access Bond' allowed Standard Bank to grow its home loan portfolio from zero to R6,5 billion in the span of four years, 1987 - 1990. [Cape Times (10 June 1991)]. In 1993 Stanbic held 15,7% of the home loan market, second only to the Amalgamated Banks of SA (ABSA) which had 39,6%. Moreover, Stanbic has traditionally dominated in the market for banking products. In 1992 Standard Bank was granted the authority to open a banking subsidiary in London and in July of that year acquired the Jersey and Isle of Man operations of the British merchant bank Brown, Shipley & Company. It should be mentioned that South African clandestine bank operations overseas had been replaced with overt banking activities, made possible by the peace process in place in the country from 1990. In addition, the DTI Act was part of global legislation which enabled financial institutions to grow by merger and acquisition, with greater ease. In November 1992, Stanbic acquired the Africa operations of ANZ Grindlays Limited and the group now has a banking presence in ten countries in Africa. In December 1992 the group acquired a majority interest in the Commercial Bank of Madagascar and in the Union Bank of Swaziland and Botswana.

4.3.2. First National Bank (FNB)

First National Bank (FNB) has also remained relatively stable since the passage of the

new DTI Act. This was despite FNB's failed attempt to acquire Allied and NBS Buildings Societies. FNB has strong shareholders and is ultimately controlled by the Anglo-American Corporation. There are in addition cross-shareholdings between FNB and the life assurer, Southern Life Assurance. Southern Life holds a 26% stake in FNB while the bank holds a 10% stake in the assurer. In 1992 FNB purchased UK merchant bank Henry Ansbacher Holdings plc, for 57,8 million pounds. The merchant bank also has branches in the Caribbean islands, Channel islands as well as in Zurich and Monaco. In Africa, FNB has a presence in Botswana, Namibia and Botswana. The group has recently introduced a mass-market bank, Future Bank, into the local financial market. This is a 51% black-owned bank and FNB has taken up a 49% shareholding. In 1993 FNB purchased the Midlantic Asia Bank in Hong Kong for \$15 million.

4.3.3. Nedcor

Nedcor purchased the SA Permanent Building Society in 1989, helped by the legislated appendage to the Building Societies Act, which enabled banks to become majority stake holders in mutual societies. Nedcor's major shareholder is the Old Mutual Assurance which has a 52% shareholding. In 1991, Nedcor, with the three main components of a diversified financial services group in place, extended the scope of its operations through a joint venture company between it and South African Breweries (SAB) Ltd, named Advantage Investment Corporation (Pty) Ltd. The terms of formation included that the Nedcor group would act as SAB's bank, providing certain necessary facilities in credit-based retailing, such as short term financing and SAB would provide a large client base through its consumer-orientated subsidiaries.

This was a unique step to extend links beyond the banking sector. Soon thereafter FNB extended its links to the credit-based consumer group, Prefcor Ltd.

The Nedcor group has established links overseas with a branch network in London, Hong Kong and Taiwan. The group has also, in 1992, taken a strategic major share in bank information technology company MSS Pty (Ltd), based in London. In this time period, through wholly-owned subsidiaries UAL Merchant bank and Syfrets Asset Management Group, the purchase took place of ATC Holdings on the Isle of Man. In 1992 Nedcor was also granted access to finance insured by the Commodity Credit Corporation of the US and has expanded its import and export credit lines through Factor Chain International.

4.3.4. Amalgamated Banks of South Africa (ABSA)

In April 1992 the Bankorp Group, which suffered severely from the imprudent loan business generated by subsidiary Trustbank, was acquired by the Amalgamated Banks of SA (ABSA). ABSA has since the implementation of the DTI Act acquired the Volkskas Bank Group, Allied Building Society, United Building Society and together with the Bankorp Group subsidiaries Trustbank, Senbank merchant bank and credit instalment financier Bankfin, had total assets of R82,5 billion by the end of the Group's financial year, March 1993. Life assurer Sanlam has a substantial stake in the ABSA group. The volume of acquisitions elevated ABSA to the position of the largest bank in South Africa by 1993. Furthermore, ABSA has adopted a policy of backward integration in the financial services sector, taking major stakes in property and allied companies. It currently has substantial shareholdings in Seeff Holdings.

31,5% holding in Saambou Building Society through the issue of R55m convertible debentures. These debentures mature into ordinary share in 1994. The Fedsure-Investec-Saambou combination now represents a R10bn financial services group although all are independent operational entities. In 1991 the Investec Bank Group purchased the mutual society Provincial, for R140m and in 1992 acquired merchant bank Allied Trust, based in London, for R185m.

4.4.2. Rand Merchant Bank (RNB) and Momentum Life Assurance

Rand Merchant Bank joined up with Momentum Life Assurance to form a financial services group with total assets valued at R10bn at the end of 1992. The transaction meant that Momentum Assurance, the holding company, acquired Rand Merchant Bank Holdings (RMBH). RMBH will hold 76,4% of Momentum Holdings, at an exchange ratio of R4,40 for one Momentum share. The remainder of the R385m was paid to RMBH in cash (R152,2 million). Momentum increased its shareholder base by R230m and acquired a 60% stake in RMBH. [Momentum Assurance Annual Report 1992]

4.4.3. NBS Bank Group

The NBS Bank Group has remained relatively independent and has opted for organic growth as a diversified financial services group. The group has a 30% shareholding in Norwich Union Assurance. It also has a 49% stake in the French Bank of SA, which is a subsidiary of multi-national financial conglomerate, the Indosuez Corporation. In 1993 the NBS Bank, together with Momentum, took up a joint shareholding in short term assurer, Aegis for a total consideration of R181 million.

Momentum has a marginal holding in the NBS bank group and the life assurer is noticeably devoid of home loan business. In 1993 RMBH took up an 18% stake worth R225m in the NBS group.

4.4.4. Boland Bank

Boland Bank has remained a small bank providing general banking services. It is a Paarl-based organisation that began as a bank providing a financial service for farmers. Boland Bank has, over time, branched out to cover general banking business and now offers a broader range of financial products. In 1993, the bank group's dominant shareholders, the ABSA Group, Sanlam and the tobacco organisation the Rembrandt Group, sold their shares to, *inter alia*, the Cape-based financial institution Board of Executors (BoE). BoE now holds the equivalent of a 30,1% stake in the bank, in the form of redeemable-compulsory convertible debentures estimated at R74 million. This is considered to be the beginning of another large bank group formation.

Finally in 1994 a smaller bank amalgamation occurred with mutual society EP Building Society and publicly listed Fidelity Bank merging to form a bank group with total assets of R1,8 billion.

4.5. Conclusion

Since the DTI Act was introduced three large new bank formations have been formed, namely the ABSA Group, the Investec-Fedlife-Saambou combination and Rand Merchant Bank-Momentum Life, with the NBS group drawing closer to the latter

alliance. Moreover, the Boland Bank Group and BoE have moved closer together and Fidelity Bank and the EP Building Society have merged. Therefore in conclusion, *prima facie*, the trend towards mergers and acquisitions in the banking industry seemingly accelerated after the implementation of the DTI Act in February 1991. It is further clear that banks in this period were primed towards gaining market share organically but more predominantly through an acquisition or merger. Those that control the decision-making process at BHC's demonstrated this preference with their pre-disposition towards mergers.

CHAPTER 5:- TESTING THE HYPOTHESIS THAT BIG BANKS ARE BETTER PERFORMING BANKS THAN SMALL BANKS

5.1. Introduction to SA Bank Shares

The Banks Index comprises 4,5% of the All-Share Index on the Johannesburg Stock Exchange. [JSE Handbook (1992)] In the period from 1960 to 1992, the Banks Index has been highly volatile when measured against the Financial & Industrial Index. [see Fig 2]

In a paper delivered by South African bank analyst Richard Jesse to the Financial Mail Conference [(1991)] it was pointed out that:

"Historically South African bank shares
have tended to show clear uptrends and
downtrends against the market – bank
shares are therefore considered to be part of
an actively managed portfolio." [Jesse (1991) (5)]

Jesse also showed that there were inconsistent share price movements in this sector. Jesse used share price movements before and after the October crash in 1987 to illustrate this point. In August 1987, FNB was at a share price of R20,50 and appreciated by a further 17% to an after-the-crash price of R24 per share, Stanbic gained 15% to R25 per share, Trust bank (now part of ABSA) declined and Nedcor

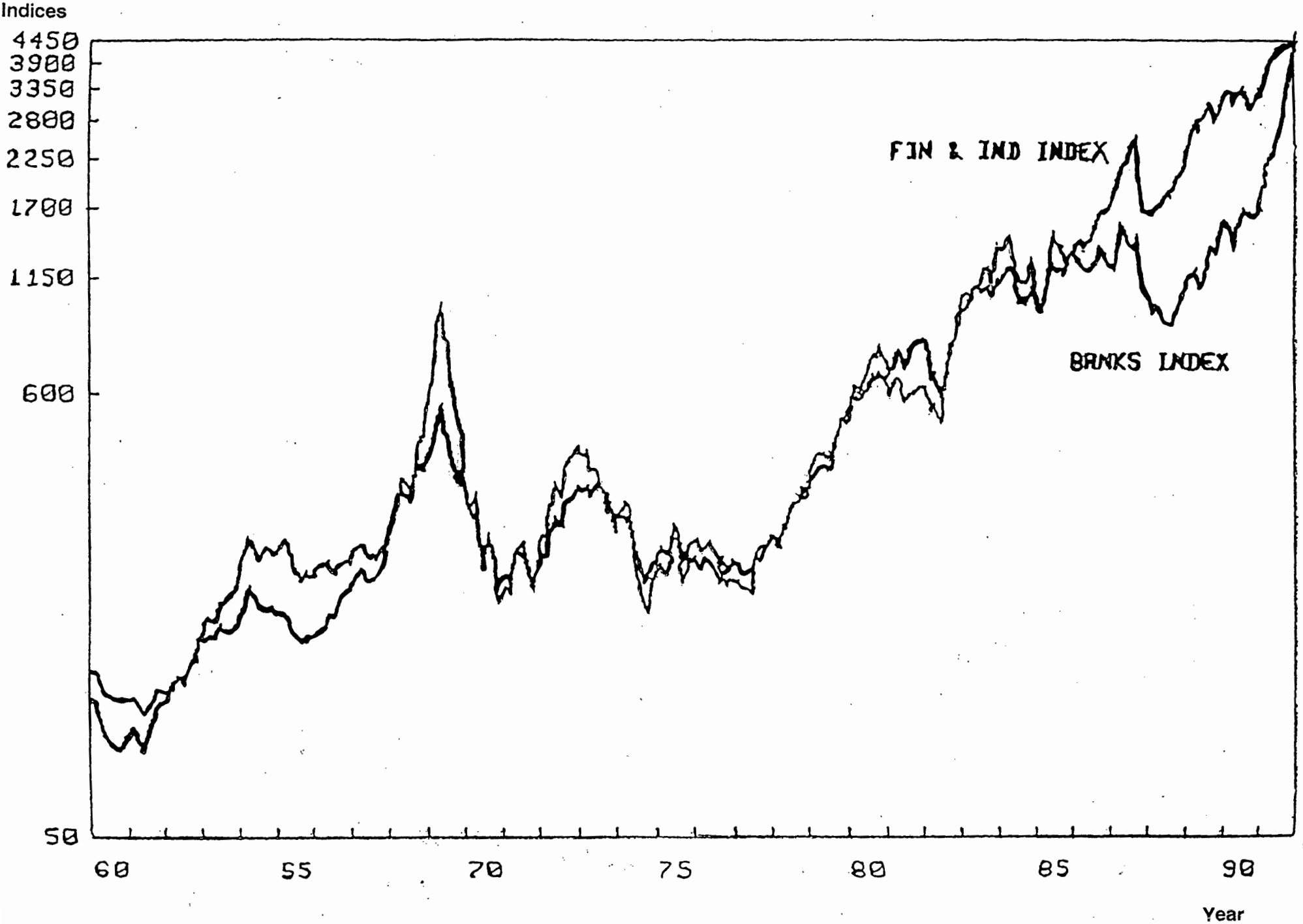


Figure 2

Source: [Compugnote (1993)]

remained unchanged. In accordance with a high Beta-coefficient [refer to Fig. 2] BHC's have had wide disparities in earnings and dividend growth over this period, which led to large fluctuations in their respective share price. Jesse has argued that small banks may tend to have a higher Beta coefficient than do big banks, simply because their ability to adjust to economic changes must be less complex than a large organisation. In 'good times' the earnings growth should be steeper and in 'bad times' the fall would be of the same nature, but of a negative sign. [Jesse (1991) (20)]

The period after the introduction of the DTI Act was vastly different from the banking industry, before the arrival of the Act. Certain banking strategies that dominated the earlier period have now been ruled out and this could prevent volatility in bank performances in the future. [McConnochie (1) (1992)]. McConnochie argues that banks adopted the antiquated method of opting for volume growth to gain market share, without strict credit and risk analyses. This may partially explain a good earnings performance in buoyant economic times and bad performances when the economy is in recession. Jesse [(1991)] points out that the maximum incidence of bad debts, from loan business, is considered to occur soon after the economy has reached its nadir. Commercial banks, historically, have been able to balance their risks associated with loan business since, when the economy was in recession, normally linked to a period of high interest rates, a commercial bank obtained deposits at a low rate and the funds were then loaned out at the market-related prime overdraft rate.

"The commercial bank has had the fairly unique opportunity, relative to the rest of the financial services industry, in being able to balance volume growth and interest margins. The tendency was to balance low volume growth with higher interest margins and vice versa".

[McConnochie (1) (1992) (8)]

5.2. The Interest Rate Cycle

The interest rate cycle has an important effect on all bank profits. [SA Reserve Bank Supervision Report (1992)]. To provide some indication of the importance of interest margins, in 1992 interest received made up 83% of total financial institution income. The period under observation here, 1988 to 1992, showed that profits from this source were highly unstable as the prime overdraft interest rate rose from 13% in 1988 to a 21,25% high in 1990, before falling to 17,25% by the end of 1992. In this five year period loans and advances made up 84% of the total assets held by financial institutions. These were made up of a 34% holding of mortgage loans and 31% in overdraft and credit cards facilities. In addition, there were minor holdings of bills, foreign currency loans, resales under agreement and instalment debtors. Data suggests that financial institutions were cutting back on volume growth over this period, with total credit extended in the bank sector falling, from an annual increase of over 35% in 1988 to a 15% annual increase by the end of 1992. [ibid (1992)]

Building Societies, inherently, have relatively stable asset portfolios from mortgage loans. However the collapse of the Savings & Loans Institutions in the US, and Masterbond in SA, are examples of bad management turning such low risk assets into high level bad debts. [(McConnochie (1) (1992)] Nevertheless, we argue here that in the case of prudent asset management a diversified asset portfolio, through the merger or acquisition of separate businesses allied to the financial services industry, could assist in smoothing the rate of return and this could, in turn, be a factor in smoothing or stabilising a bank's share price. In an empirical sense and *prima facie* a diversified financial services group has merits. However bank theory has found that there are no cost benefits from a bank merger to create a diversified financial services group but there is partial verification when analysing bank mergers from a perspective of revenue generation.

5.3. Testing Banking Performance in South Africa

5.3.1 Measuring Individual Bank Performance

A comparison of six banks – three big banks and three smaller banks -- introduced in the previous chapter, will now be undertaken to measure performance over the designated sample period. The six banks are all publicly-listed institutions operating as deposit takers under the new bank guidelines. The comparison will consist of a size variable of each bank measured against a market-related variable.

The performance measure is the price earnings (PE) ratio, which has proved to be the most successful measure for the banking industry [Jones (1990)]. This ratio measures the number of times the share price of a publicly-listed company covers

its earnings per share based on its financial statements. It is a rating using earnings of an individual company as a benchmark in measuring share performance. The PE ratio contains a future expectation component in the current share price and earnings per share is based on historical data. Therefore a high PE ratio is normally associated with positive investor sentiment and a low PE ratio is associated with negative investor sentiment. Following from Boyd *et al* [(1993)] gross advances have been selected as the size indicator. Gross advances, for consistency purposes, are made up of advance, acceptances, guarantees, debtors, remittances and transfers at an individual bank. The sample period, as already stated, extends from 1988 to 1992 and the data has been collected at the respective bank's year end.

The data will be projected graphically, with the PE ratio represented on the y-axis and gross advances on the x-axis. Measurements of each bank will be based on their respective PE ratios and gross advances and this will be mapped on to five separate charts, from 1988 to 1992. A higher market rating is anticipated, we argue, to relate to size. A graphic comparison will also be conducted to measure the performance of a mean big bank sample against that of a mean small bank sample for the designated period.

TABLE 5.1 The PE ratios and Gross Advances of Big Banks

BIG BANKS	1988	1989	1990	1991	1992
Gross Advances	Bn's	Bn's	Bn's	Bn's	Bn's
Standard Bank	R25,2	R33,7	R39,6	R45,9	R57,4
FNB	R23,6	R25,7	R26,4	R33,2	R39,4
NEDCOR	R12,5	R22,3	R26,8	R32,9	R35,6
PE Ratios	1988	1989	1990	1991	1992
Standard Bank	5,8	6,8	7	10,2	12,4
FNB	5,4	4,5	6,2	9,1	9,8
NEDCOR	5,4	6,6	7,1	7,2	7,4

TABLE 5.2 The PE ratios and Gross Advances of Small Banks

SMALL BANKS	1988	1989	1990	1991	1992
Gross Advances	Bn's	Bn's	Bn's	Bn's	Bn's
NBS	R2,7	R3,5	R4,6	R 6	R7,6
Boland	R1,4	R1,8	R2,3	R2,6	R2,8
Investec	R0,402	R0,650	R1,2	R1,9	R2,3
PE Ratios	1988	1989	1990	1991	1992
NBS	6,4	6,3	7,8	9,5	10
Boland	5,4	4,8	4	5,7	7,5
Investec	6,8	6	7,7	11,6	14,1

Figures 3(a) to 3(e) graphically depicts the market rating of each individual bank relative to its size, for the period of 1988 to 1992.

5.3.1.1 Commentary on the Graphs

There is little evidence that in the period between 1988 and 1992 a positive relationship existed between market rating and the size of an individual bank. In fact, in 1992 [Fig. 3(e)] Investec Bank Group was the smallest size in terms of gross advances, yet had the highest market rating on the share market. It is also evident that between 1988 and 1992 each bank's market rating, in general grew, as did each bank's holdings of gross advances. A link therefore exists, we argue, between the

Gross Advances vs PE Ratio (1988)

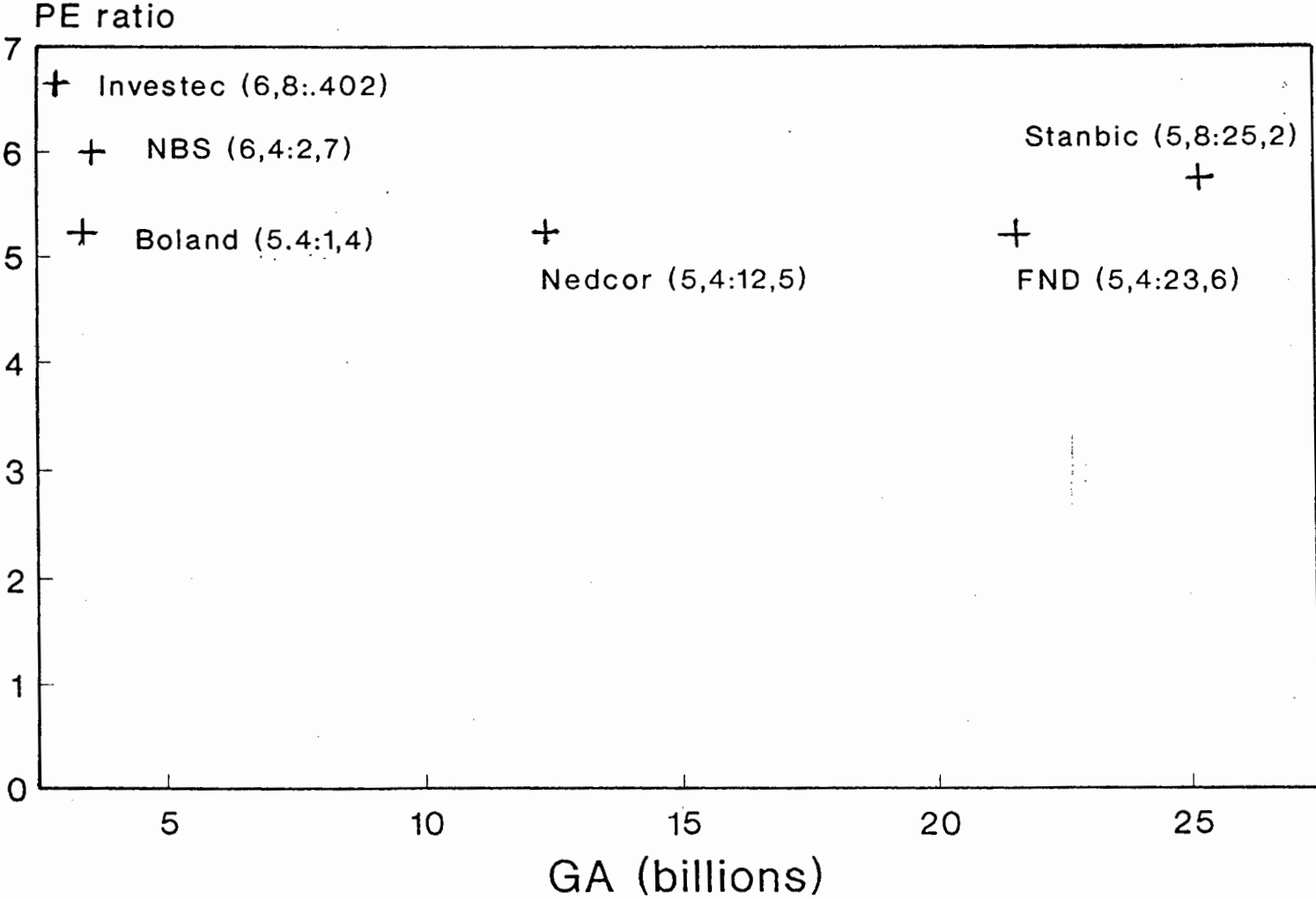


FIG 3(a)

Gross Advances vs PE Ratio (1989)

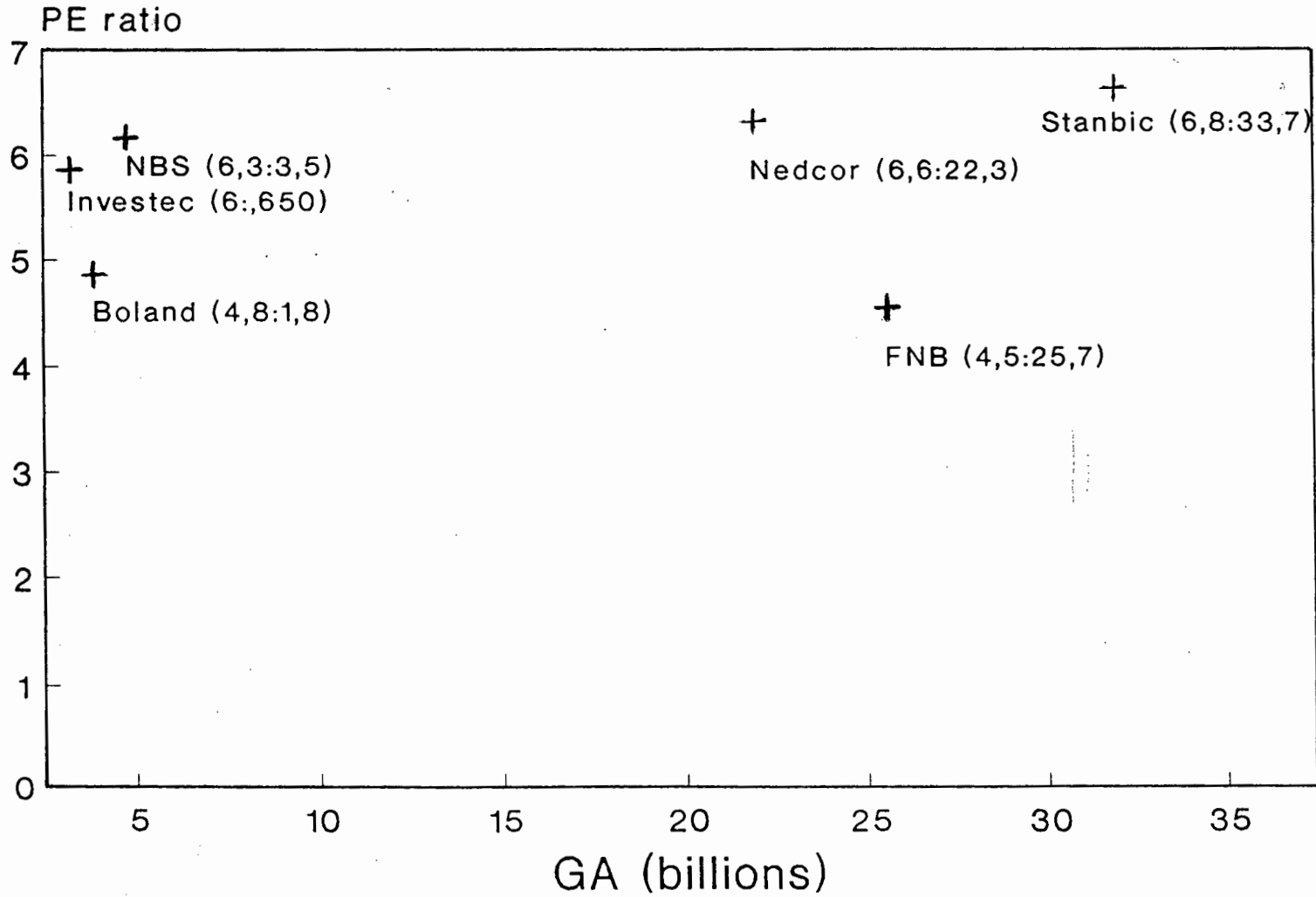


FIG 3(b)

Gross Advances vs PE Ratio (1990)

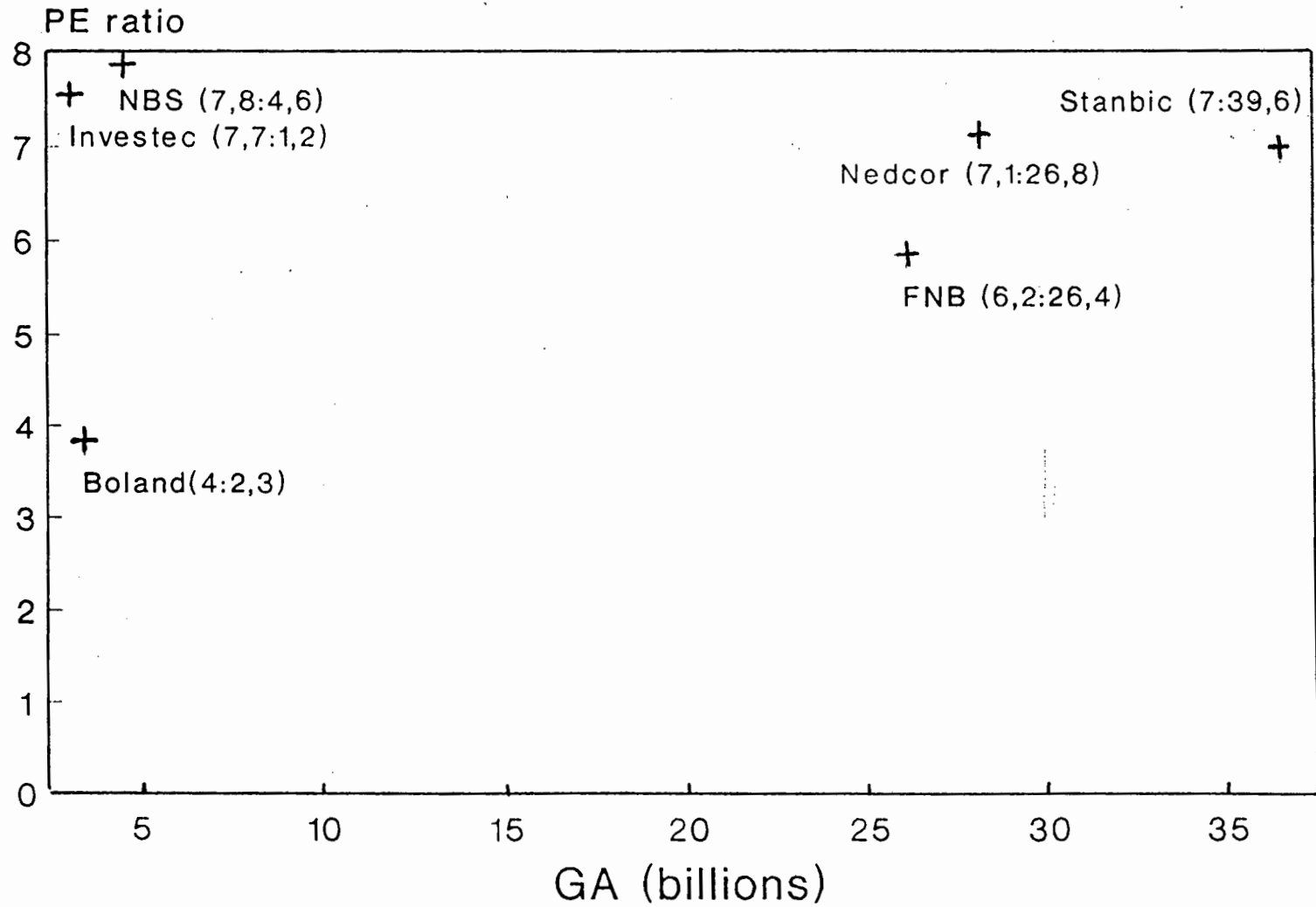


FIG 3 (c)

Gross Advances vs PE Ratio (1991)

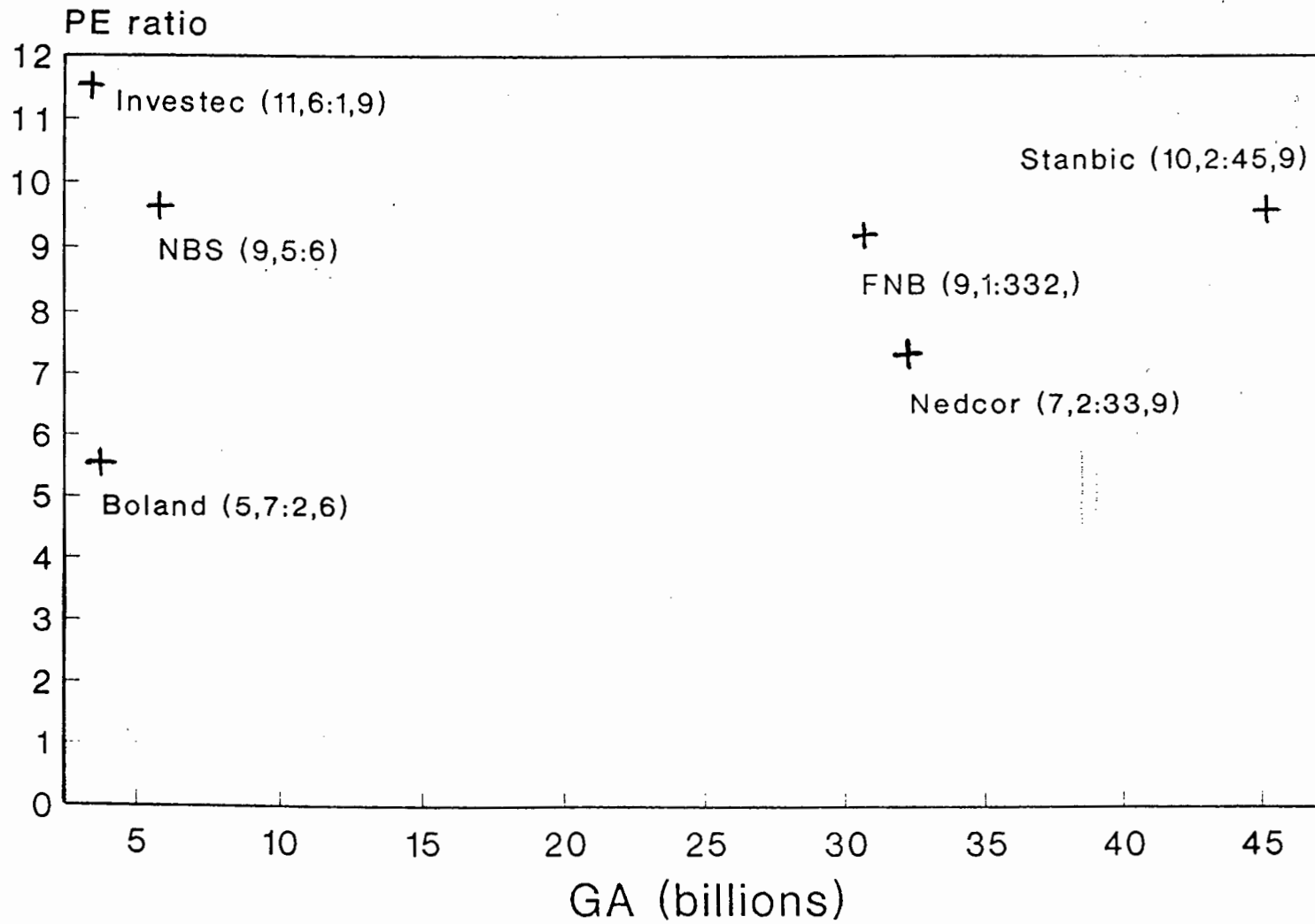


FIG3 (d)

Gross Advances vs PE Ratio (1992)

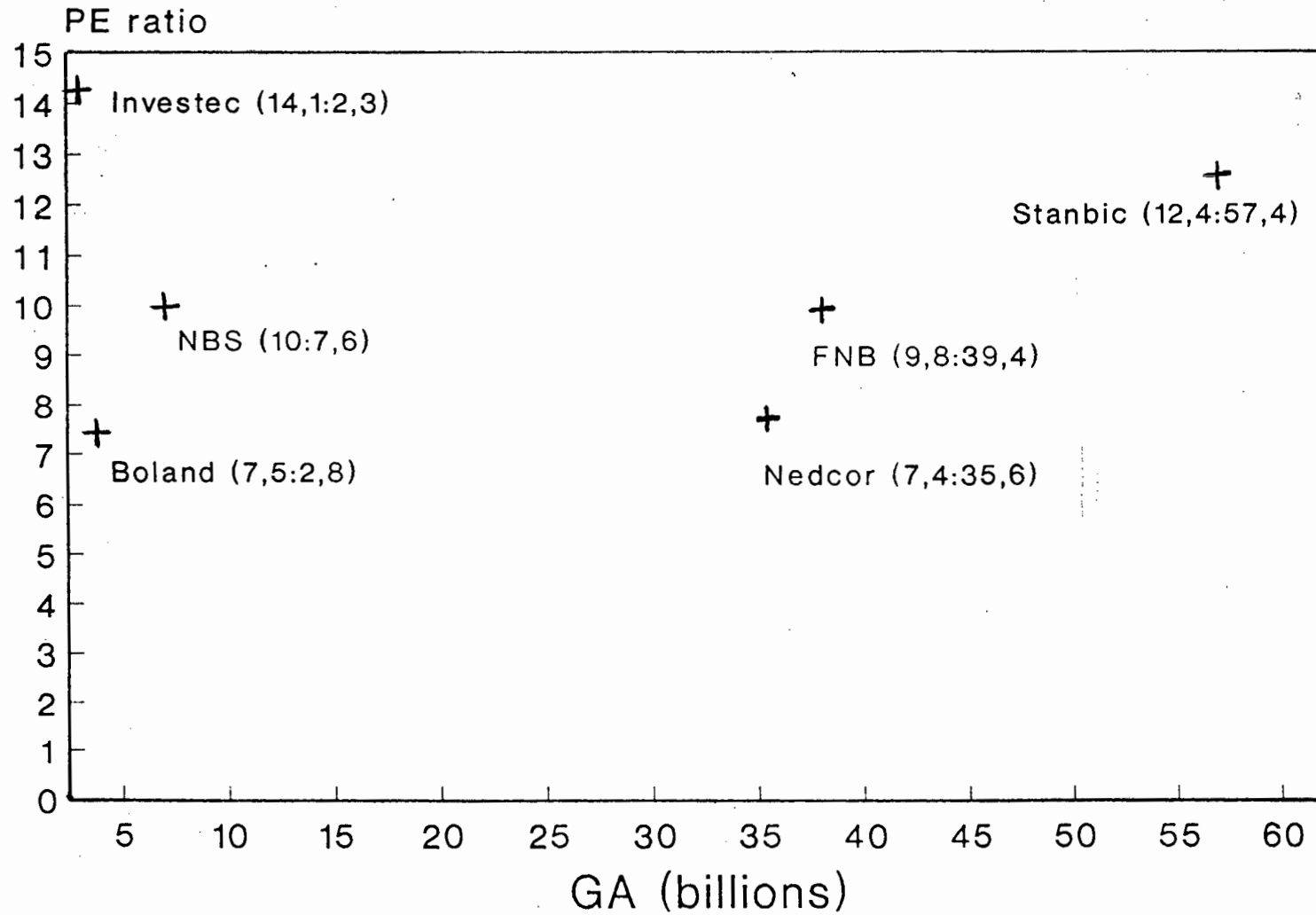


FIG 3(e)

perceived quality of an individual bank's volume growth and an individual bank's performance. To support this assertion the Bankorp Group, which was acquired by ABSA in 1992, had a PE ratio that declined even though its size, as defined, increased in the sample period. Boland Bank also suffered a downrating even though its total assets increased. McConnochie argued [(2) (1992)] that this was because it's growth was in the farming community at the time of the local drought. Boland Bank's shift to a more balanced client portfolio and a wider array of financial services could in some part be reflected in its re-rating in 1991 and 1992. Boland bank's approach was to re-position new branches to gain a broader spectrum of client. The coming together of Boland Bank and BoE will provide an additional dimension for Boland, in terms of merchant banking and asset management business. The NBS Bank moved, in this period, away from its traditional home loan business and now offers a greater variety of commercial bank services. The NBS Bank's approach has been to focus on organic growth, making its own entry into new markets. However a strategic alliance has also been formed with Momentum Assurance.

Investec Bank Group's customers were traditionally the professional market, which provided the institution with a stable asset portfolio. It has made strategic acquisitions and now covers virtually all areas of the financial service industry. These aspects have helped Investec to gain the highest return on assets on average from 1988 to 1992 -- a return on assets of 1,56% compared with an average for big banks 0.89%. It also had the highest market rating based on the PE ratio -- three out of the five years. NBS Bank had the highest market rating in 1990 providing an opportunity

for a big bank (Stanbic), to rank highest only once in the observation period.

FNB's performance was hindered in this period by internal restructuring, which included the implementation of the Hogan computer system, which allows for a branch network organisational structure. The benefits of such a system accord with faster decision-making, arising from decentralised information. FNB was downgraded, based on the PE ratio, in 1988 and 1989, during the introductory phase of the restructure, before experiencing a sharp rerating with the realised successful implementation of this branch system structure. [McConnochie (3) (1992)] In comparison, Stanbic could be considered as a single operational structure although it has been positioned, in recent times, to assimilate information at a regional level. Nedcor has opted for a divisional strategy, with a central command structure overseeing the six divisions below. The organisational structure is associated with a multibank strategy. Boland Bank, Investec and the NBS are single operational structures. However the recent link of Investec Holdings, with, *inter alia*, Fedsure and Saambou also resembles a multibank formation. McConnochie [(2) (1992)] argues that the above-mentioned grouping can now access accurate information at the three-pronged corporate control level.

5.3.2. Comparison of Big Banks versus Small Banks

The next part of the process of analysing these South African banks is to compare the average performance of the three big banks with the average performance of the three small banks in the sample period of 1988 to 1992. Here comparisons between

small banks and big banks are conducted on a single graph to encapsulate performance over time.

TABLE 5.3:- Mean Big Bank PE ratio and Gross Advances from 1988 to 1992.

BIG BANKS	1988	1989	1990	1991	1992
Gross Advances (billions)	R20,4	R27,2	R30,9	R37,3	R44,1
PE Ratio	5,5	5,97	6,77	8,8	9,9

TABLE 5.4:- Mean Small Banks PE ratios and Gross Advances from 1988 to 1992.

SMALL BANKS	1988	1989	1990	1991	1992
Gross Advances (billions)	R 1,7	R 2,4	R 3,1	R 4,1	R 4,8
PE Ratio	6,2	5,7	6,5	8,9	10,53

Figure 3(f):- the graphic comparison of the performance of big banks as against that of small banks.

5.3.2.1 Commentary on the Graphs

It is evident that big banks did not have a superior market rating to small banks in the

Comparison of Big Banks vs Small Banks Between 1988 - 1992

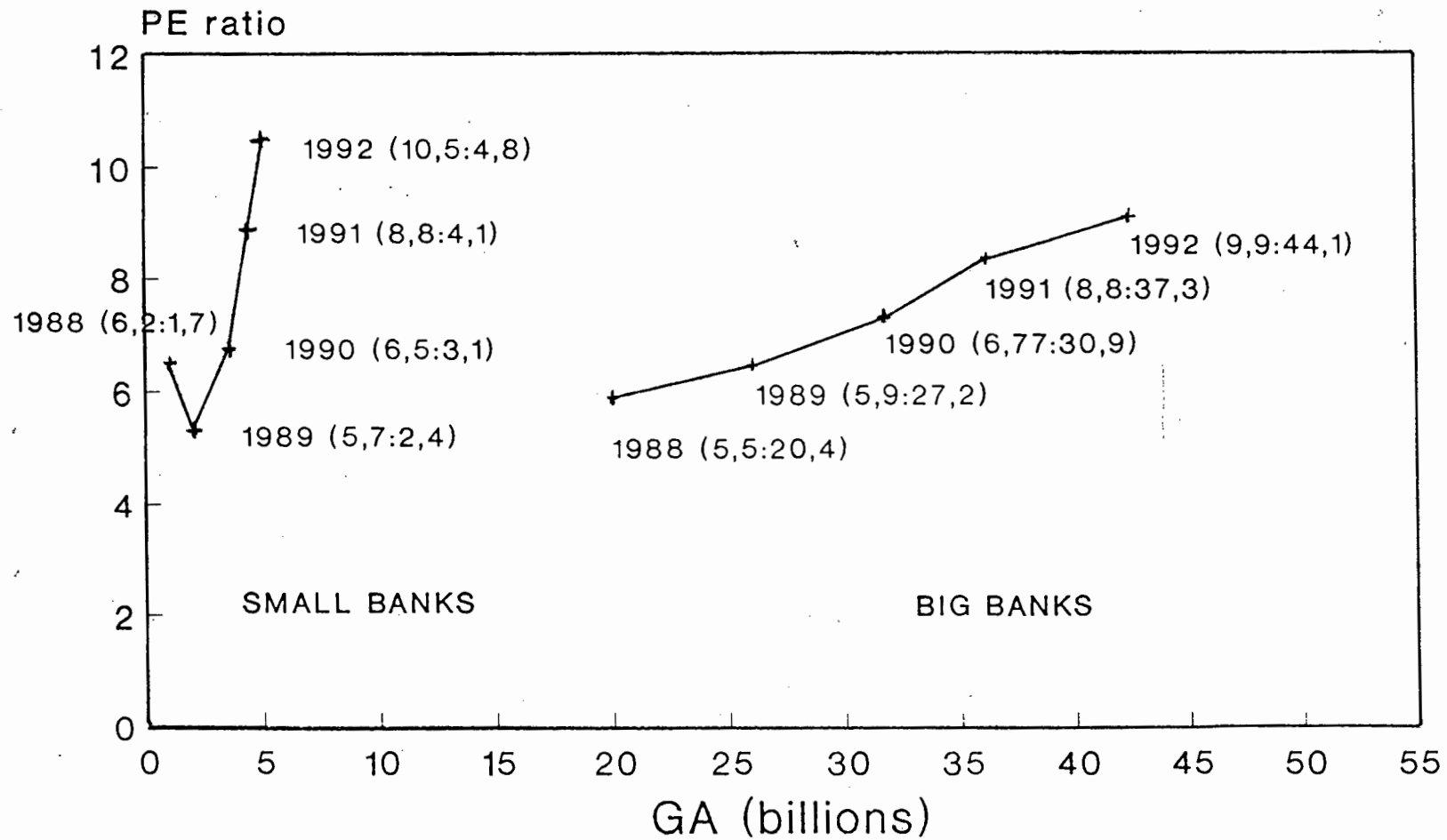


FIG. 3 (f)

sample period. In fact, in three of the five years small banks, on average, had higher market ratings. Small banks underwent a sharp re-rating in the years leading up to the implementation of the DTI Act [Figure 3(f)]. This should provide evidence, we argue, that these "niche" or selective banks are considered as an important part of the new bank environment based on their share market performance. Big banks had more gradual growth in their market ratings between 1988 and 1992, which was in line with the re-rating of the financial services sector in general. This could be explained, in part, by the fact that the banking industry experienced a period of high earnings growth as a result of interest rate fluctuations. This afforded most financial institutions the opportunity of benefiting from higher margins when interest rates increased and allowed for a slower rate of decline in bank charges when interest rates declined [Jesse (1991)]. Moreover, there are also the advantages associated with the greater returns during a volatile period in the interest rate cycle. Small banks, on average, were able to take greater advantage of their positioning in selective markets to increase their earnings performance, during this period. However the counter argument is that they are unable to balance a decline in earnings from a single revenue source [Jesse (1991)]. To this extent a small bank in general would tend to have a higher Beta than a big bank [McConnochie (1) (1992)]. On average small banks gross advances went up by 141% from R1,7bn to R4,1bn, in the period, while the big banks grew advances by 116% from R20,4bn to R44,1bn.

Big banks, we argue, were able to assure a smooth earnings performance because of diversified incomes. This resulted in a consistent uptrend in their rating in the

sample period. Small banks are perceived to be unable to achieve a diversified earnings balance and therefore there was the decline, in terms of its PE rating, between 1988 and 1989.

5.5. Conclusion

The future of the financial services industry will depend on the extent to which quality credit information can be transmitted effectively across geographic distance and between different economic organisations and communities. A financial institution's ability to evaluate and control credit risk at a distance will importantly influence both the industry's likely future scale and the extent of its eventual consolidation [McAllister & McManus (1993)].

Decentralised banking structures are considered more flexible and pro-active in disseminating and reacting to information. Small banks, for that very reason, are able to react with immediacy to new information through a more efficient decision-making and implementation process. Big banks have taken cognisance of this and divisional strategies in large organisations are starting to emerge, in essence forming niche operations within the organisation [McConnochie (1993)]. Looking at specific examples, the concentration of command has filtered down to branch level in the case of FNB and with the Nedcor group the command centre has been broken down into financial product divisions, while Stanbic has spread its command centre to its regions. Investec and NBS Bank could be described as being in the embryonic stages of becoming part of a multibank structure. Boland bank is also likely to decentralise information in a divisional structure with closer links to BoE.

The mass market has been, and will continue to be, a problematic area for BHC's. FNB, Nedcor and Stanbic have adopted divisional strategies to accommodate this sector of the South African population. FNB has recently started Future Bank, which is a bank focused exclusively on the black market and Nedcor's mass market home loans are conducted through the SA Perm. Stanbic has recently launched a subsidiary, E-Bank, which plans, in the same manner, to focus on the black market. In addition, former managing director of the Perm, Bob Tucker is currently working on a project to evaluate the efficiency of community banks based on the mutual society concept.

A few words are appropriate on the ABSA Bank, the largest institution in South Africa, but left out of this sample survey as no consistent data could be obtained from an organisation in a continual state of flux in the period under review. However the different brand names in the group would allow ABSA to successfully adopt a multibank strategy in filtering commands to decentralise information.

The conclusion can be drawn that "big" is not necessarily "better" in the South African bank industry. Big banks could be better banks, we argue, should they adopt decentralised strategies. We argue that the trend is towards large bank groups but point out that small banks will be able to compete successfully in a specific niche market. Moreover, we conclude that niche banks would need to enhance their associations to diversify into allied financial services.

In summary, we argue that size has very little relevance to individual financial markets

and performance instead rests on strategic positioning in those markets. Size, crucially, does allow for a far swifter access to information across the entire financial services sector. Small banks, we argue, seemingly realised that an association was important in the financial services industry and big banks have realised that information can only be properly disseminated in a decentralised structure. This we argue would explain the trend of small banks to enlarge their links in the sector and for big banks to break down their structures into small parts.

The ultimate conclusion from this thesis is that size is not a good indicator of market rating or performance at a bank. A large bank is reliant on its individual parts, some stronger than others in a diversified group. Those individual parts of a bank group are more relevant, we argue, than the organisation as a whole. From this viewpoint size would be immaterial in determining performance in a specific market. The superior ranking of small banks over big banks in the sample period observed, could be seen as demonstrating support for niche banking strategies.

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