NEAR EAST UNIVERSITY

GRADUATE SCHOOL OF SOCIAL SCIENCES

BANKING AND ACCOUNTING MASTER PROGRAMME

The Effect of Capital Competence on the Profitability of Development and Investment Banks in Turkey

BAYAR ISMAEL

MASTER THESIS

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Has been found satisfactory for the award of degree of Master

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ABSTRACT

The Effect Of Capital Competence On The Profitability Of Development And Investment Banks In Turkey

The study examines the influence of capital competence on the bank profitability of development and investment banks in Turkey. The study also sought to establish challenges that are being encountered in ensuring that banks have high quality capital competence that promotes improvements in profitability. ARDL model was used to estimate a capital competence-profitability using annual time series data from the period 1961 to 2016. The obtained results showed that there is long run cointegration between capital competence and bank profitability. The results also showed that long run improvements in economic growth and banks' asset quality will result in a significant fall in bank performance while that increases in bank capital, bank liquidity and inflation will result in significant fall in bank profitability.

Keywords: Autoregressive distributed lag, asset quality, bank capital, bank liquidity, bank profitability, economic growth, inflation

ŐZ

Sermaye Yetkinliğinin Türkiye'de Kalkınma ve Yatırım Bankalarının Karlılığı Üzerine Etkisi

Çalışma, sermaye yeterliliğinin Türkiye'deki kalkınma ve yatırım bankalarının banka kırıklılığı üzerindeki etkisini incelemektedir. Çalışma aynı zamanda, bankaların karlılıktaki gelişmeleri destekleyen yüksek kaliteli sermaye yeterliliğine sahip olmasını sağlamada karşılaşılan zorlukları ortaya çıkarmaya çalışmıştır. ARDL modeli, 1961'den 2016'ya kadar olan dönemden elde edilen yıllık zaman serileri kullanılarak sermaye yeterlilik karlılığını tahmin etmek için kullanılmıştır. Elde edilen sonuçlar, sermaye yeterliliği ve banka karlılığı arasında uzun dönemli eş-bütünleşme olduğunu göstermiştir. Sonuçlar aynı zamanda, ekonomik büyüme ve bankaların aktif kalitesindeki uzun vadeli iyileşmelerin, banka performansında önemli bir düşüşe neden olacağını, buna karşılık banka sermayesi, banka likiditesi ve enflasyonundaki artışların banka karlılığında önemli bir düşüşe yol açacağını gösterdi.

Anahtar Kelimeler: Agresif dağıtılan gecikme, aktif kalitesi, banka sermayesi, banka likiditesi, banka karlılığı, ekonomik büyüme, enflasyon

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LIST OF ABBREVIATIONS

ADF: Augmented Dickey Fuller

AQ: Asset Quality

ARDL: Autoregressive Distributed Lag

BC: Bank Capital

BL: Bank Liquidity

BP: Bank Profitability

BRSA: Banking Regulation and Supervision Authority

DV: Dummy Variable

EG: Economic Growth

INF: Inflation

PP: Phillips Perron

SDIF: Savings Deposit Insurance Fund

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

The extent to which development and investment banks have high quality capital competence is of paramount importance not only to deposit and investment banks but to the effective functioning of a financial system. It is believed that a stable and financially developed financial system is the one that is characterised by high capital structures (Mathuva, 2009). This is due to the fact that high capital structure is synonymous to high banking risk. As a result, monetary authorities are forced to raise up bank capital requirements. There are severe challenges that banks have been facing for the past ten years or more and such challenges are not only threatening bank profitability but also their operational existence (Siam&Khanji, 2015). Improvements in capital are therefore needed to invest in activities that will result in banks gaining customers' trust and market share. This includes the ability of banks to adhere to given local and international banking standards and such has been established to be difficult when banks have low capital competence (Mathuva, 2009). This is evidenced by ideas given by (Siam and Khanji ,2015) which showed that it is impossible for banks to invest in high income generating projects, assets, commodities or sectors when they have low income competence. On the other hand, capital improvements are needed so as to strengthen a bank's financial position and safeguard depositors' funds against potential losses (Guru et al., 2002). Capital competence can also be used as an indicator of the level of trust shareholders and stakeholders have in the bank (Hutchison & Cox, 2007). This implies that the higher the level of capital the bank has, the higher the level of trust shareholders and stakeholders have in the bank.

Meanwhile, the 2008 financial crisis that rocked Turkey increased the risk structure of the Turkey's banking sector. However, the profitability of some banks remained high in the midst of low bank confidence among customers (Naceur&Kandil, 2009).

This contradicts assertions which have been made by (Siam and Khanji,2015), which showed that high banking risk is associated with low profitability and high capital structure. On the other hand, ever since the 2008 financial crisis, Turkey monetary authorities have been enacting measures to boost capital competence among banks. Such has been supported as a sound approach to deal with a high risk banking environment (Demirgüç-Kunt& Huizinga, 1999). This has also been supported by other scholars which have established that capital competence is not to deal with banking risks but is important as it boost bank profitability (Froot& Stein, 1998; Naceur, 2003).

1.2 Statement of the Problem

The major role behind capital competence is to improve the operational effectiveness of banks such as ability to deal with solvency and interest rate risk (Naceur&Kandil, 2009). However, a study by (Rime,2001), contradicts with this and contends that capital competence is there to facilitate the ability of banks to invest in profitable and high income generating projects. This brings doubt as to how capital competence influences bank profitability. This is also due to the idea that high capital competence is needed as a risk protective measure when the operational environment in the banking sector is too risky (Rime, 2001). But (Froot and Stein,1998) argue that banks require more capital for investment purposes. Such capital is the one which they use to issue out loans, invest in profitable assets, commodities and sectors (Mathuva, 2009). In addition, (Lee and Hsieh ,2013), contends that the relationship that exist between capital competence and bank profitability is not always positive as noted by many scholars such as (Siam and Khanji ,2015).

This is because there are several factors which influence bank profitability such as liquidity, efficiency and operational effectiveness especially for banks with huge capital resources. This implies that it is not robust to conclude that capital competence has positive effects on profitability when such conditions are not looked at or included in the analysis (Guru et al., 2002; Mathuva, 2009; Siam &Khanji, 2015).However, scholars like (Demirgüç-Kunt and Huizinga,1999), and (Froot and Stein ,1998), argue that internal audit should yield the desired results irrespective of the ability to identify these factors.

As a result, there is no common agreement as to what surrounds the relationship between capital competence and bank profitability. This implies that there is a strong need to identify them. Thus this study seeks to analyse the effects of capital competence on bank profitability as well as capital competence development measures that have been made and observed in the United States' banking sector and draws attention at Turkish banks.

1.3 Research objectives

The main emphasis of this study is placed on looking at how capital competence influences bank profitability of development and investment banks in Turkey. The study will also endeavour to look at;

- The level to which capital competence measures are being upheld
- Challenges that are being encountered in ensuring that banks have high quality capital competence that promotes improvements in profitability.
- Capital competence developments that have been made within Turkey's banking sector.
- Probable measures that can be used to improve bank profitability and hedge against high risk exposure.

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1.4 Research questions

Having established the main targets of the study, the study will therefore places efforts on proving answers to the following inquiries;

- How does capital competence influence the profitability of development and investment banks in Turkey?
- To what extent are capital competence measures being upheld by development and investment banks in Turkey?
- What are the challenges are being encountered in ensuring that banks have high quality capital competence that promotes improvements in profitability?
- What are the Capital competence developments that have been made within Turkey's banking sector?
- What are the probable measures that can be used to improve bank profitability and hedge against high risk exposure?

1.5 Significance of the study

The study offers benefits of outlining issues that are influencing the performance, risk and capital structure of the Turkey's banking sector. This is importance because it allows improvements to be made which will help to restore confidence and trust in the banking sector thereby boosting bank performance. Moreover, an effective functioning of development and investment banks lies on the extent to which quality capital improvements are being made and upheld, thus by offering measures to enhance its capital competence, improvements in bank performance are foreseeable as stakeholder and shareholder engagements with the bank improves. This study is also useful for academic purposes and can utilise in future studies.

1.6 Organisation of the study

The study will be structured into six chapters in which introductory ideas are given in the first chapter. Literature review including theoretical insights surrounding capital competence are outlined in the second chapter while the third chapter looks at capital competence and profitability issues of development and investment banks in Turkey. The fourth chapter outlines methodological steps followed to arrive at conclusions. An analysis and presentation of results is given in the fifth chapter while conclusions are given in chapter six.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The relationship between capital competence in the banking sector is of huge importance not only to bank managers but also to policy makers. This follows insights which can be established that bank capital and profitability interact together to influence survival prospects and future growth aspects. Thus it is important to examine how capital competence and profitability interact together. This chapter therefore looks at the underlying theoretical frameworks that can be used to offer ideas of the existence of a relationship and possibly impacts of capital competence of bank profitability. This chapter will also look at the influence of regulatory requirements on bank capital, the determinants of capital competence and profitability as well as empirical bases upon which supports and arguments can be based.

2.2 The idea of capital competence

The idea of capital competence is a newly developed concept that is being explored in research. However this idea has been established from the need to have an optimal level of capital that will position firms especially banks in a better position to earn huge profits, avoid bankruptcy and grow in the foreseeable future (Gaud et al.,2005), and (Siam and Khanji,2015) defined capital competence as the way the composition of debt and equity. (Taeani ,2013) defined it as the capitalisation of a bank by the use of hybrid securities, equity and debt so as to finance its activities and assets to make profits without incurring high risks. Capital competence in this study can therefore be defined as the best or optimal level of a bank's capital structure that will warrant maximum possible profit levels at a lower risk.

In the banking sector, it is important that banks possess a high capital competence so as to deal with risks that may threaten their operational capacity and survival prospects. In addition, it is also used to finance banking activities that are targeted at ensuring that the banks earns mote profits or diversifies into other assets, markets, industries and nations (Abor,2005). This therefore shows that capital competency plays an important role in modern day banking sector and activities.

2.3 Modigliani and Miller Theory (M-M Theory)

(Modigliani and Miller,1958) established that changes in optimal capital structure can be explained by two propositions and the relationship between capital competences which they referred to as optimal capital structure can be established by how these two propositions influences other banking variables.

The first proposition of the MM theory highlights that cost of capital remains unchanged regardless of the leverage level the firm has attained and implying that capital structure and capital competence will never be optimal at both firm and industry levels. Such implies that there is no relationship between the capital competence (optimal capital structure) and profitability since the average cost of capital remains unchanged for any amount of leverage a bank will acquire (Modigliani & Miller, 1958). This can be supported by ideas which showed that a firm's financial decisions are not affected by the way the bank will structure its capital (Awunyo& Badu, 2012).

Hence, profitability decisions either through revenue maximisation and cost minimisation efforts will strictly be based on other banking activities other than capital decisions. Under such proposition, one can establish that both firms and individuals will borrow at the same rate and hence incidences of price arbitraging are considered to be non-existent and banks cannot discriminate between individual borrowing and corporate borrowing to maximise profits. The MM can also depict the relationship that exist between capital competence and profitability based on the idea that a restructure of the firm's assets is presumed not to be having an effect on firm value (Vong& Chan, 2009). In this case,

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return on assets (ROA) is therefore presumed not to have an effect on the bank's value (firm value).

Also the value of the bank according to the MM will be determined by using the net present value of investments made by the bank and this therefore entails that interest income from banking activities and assets will be used to compute the bank's value. This resultantly implies that net interest margins (NIM) is used to compute the bank's value.

The second proposition of the MM theory asserts that firms (banks) are liable for corporate tax and that interest payments from activities and assets will be subjected to tax (Modigliani & Miller, 1963). This therefore translates that what limits the bank from increasing its capital levels is the fear of paying high tax levels and that by boosting capital levels or by having a high capital competence, banks risk paying high taxes which will reduce their profitability levels. This therefore implies that the second proposition shows that there is an indirect relationship that exists between capital competence and profitability. The other implication is that by choosing to use debt instead of equity, banks will avoid having to pay taxes and this will have a profound effect on the bank's profitability levels (Watsin& Head, 2010).

The linkage between capital competence and bank profitability is also expressed by the MM through the idea that the decision to borrow whether to fund banking activities or invest in news assets and project, the decision is based on the cost of capital (Froot& Stein,1998). The cost of capital is further assumed to be determined by the bank's debt-equity ratio (optimal capital structure/ capital competence), cost of debt and return on assets (ROA), (Amidu,2007).

The MM also asserts that by borrowing more funds to boost capital reserves, banks will be exposing themselves to high risk (Gropp& Heider,2010). High risk is not a desirable event and banks will attempt to pass these risk to their customers by levying high service fees and charges and this reflects in profits earned by the banks.

This further shows that there is an indirect relationship that exists between capital competence and profitability. We can thus expect that positive changes in capital competence will have profound positive effects on bank profitability.

The MM also shows that having a high costs of equity will in the long run be offset by the lower cost of debt and thus the cost of capital is presumed to remain unchanged. According to (Gatsi and Akoto ,2010), the MM is based on two basic assumptions and these are;

- Desires of debt and equity holders and managers will never be the same.
- Managers of a firm will always possess information which investors do not have access to.

(Huizinga ,2000) also contends that lessons can be learned from the MM that financial leverage is of huge benefit to a firm, bank in this case when choosing the best financing method. Lessons can also be learned that banks will seeks to avoid bankruptcy and fiction in operations and hence will use capital competence as a strategy to avoid such things. Thirdly, there is an element which shows that if banks are to go bankruptcy, huge costs associated with bankruptcy will have to be borne by banks, customers and the government.

This study has therefore adopted this theory so as to explain what governs the relationship that exist between capital competence and bank profitability and deductions that have been made have shown that cost of debt, cost of equity and ROA will have an influence on how capital competence will interact to influence bank profitability. This implies that banks will borrow when the resultant effect will lead to improved profitability and that aspects such as corporate tax and tax levied on interest incomes will also determine whether a bank will raise more capital to undertake an investment and if possible determining how much should be invested towards the project or asset.

2.4 The pecking order theory's perception of capital structure

In order to understand how capital influences the financial performance of banks, it is important to look at the various methods that are used to finance banking operations. This follows ideas which have shown that different capital raising methods have got different effects on firm profitability (Maina&Ishmail, 2014). This is important in offering explanations about the nature of the relationship that exist between capital structure and financial performance. As a result, the study adopted the pecking order theory to offer explanations of how capital will affect the financial performance of banks in Turkey.

Foremost, the idea behind the pecking order is that firms have choices between which types of finance they can use to fund their operations (Myers &I, 1984). This implies that each type of funding offers banks certain advantages and disadvantages and hence the need to choose which one is suitable at that particular moment. One of the main element that plays a central role on determining which types of financing to use in the first place is information asymmetry. It is highly believed that the information that is available to the firm is not always available to aspiring investors (Rao et al., 2007). This entails that firms will prefer to keep certain information private at the expense of the investors and that investors have to pay in order to access such information. By providing investors with internal company information, banks will be risking that such information will have adverse effects on their financial performance as well as reputation. Hence, the need to keep corporate information private is always high and this heightens further the incentive to widen information asymmetry (Abor, 2005). In addition, competitors may also take advantage of such information and use it to downplay the firm efforts and capitalise on its weaknesses (De Mesquita& Lara, 2003). Ideas by(Myers and Majluf,1984), therefore shows that firms have a strong preference of retained earnings over short term debt, short term debt over long term debt and long term debt over equity. Hence, it is proposed that the solution to deal with the problem of information asymmetry is to use retained earnings as a primary sources of funding and this does not require that new securities be issued (Mazur, 2007).

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The impact of capital on profitability in this is as a result of information asymmetry. (Gaud et al,2005), mentions that high insiders and outsiders information asymmetry will make it expensive to use equity as a source of funding. This will have a negative effect on the financial performance of firms. Hence, expectations are that an increase in insiders and outsiders information will reduce the amount of profits earned by banks. It therefore implies that banks should not use equity as a source of funding when information asymmetry is high as it will have an impact of reducing financial performance. Moreover, it is considered to be irrational for banks to issues equity when information asymmetry is high because the value of securities in this case will be very low, resulting in the securities to be considered to be under-priced (Nirajini &Priya, 2013; Pratheepkanth, 2011). The impact of stock offerings and other falling capital structure elements is observed by a decline in the bank's stock price (Shubita& Alsawalhah, 2012). Efforts to boost the firm's capital structure attracts financial players such as investment banks who can take efforts to monitor performance but investors will not be willing to allow the firm to issue more equity stock. The reason being the need to maintain control of the company.

The relationship between bank capital and financial performance can be best analysed using the effect of transaction costs. This is because assumptions are that efforts to raise additional capital is associated with a lot of transaction costs which may cut into the bank's profit (Mazur, 2007).

The major difference between the magnitudes of effect posed by the source of capital funds available to the business is between internal sources and external sources of funds. (Gaud et al,2005), highlighted that external sources of funding (debt and equity) are associated with high transaction costs as compared to internal sources of funding (retained earnings). Which implies that an increase in the use of external sources of funds will imply a reduction in profits earned by the firm?

Hence, we can say that the decline in financial performance of firms in Turkey as a result of an increase in capital is as a result of an increase in transaction costs of securing external sources of funds. The major benefit of this theory is that it highlights the concept of rationality of the firms which shows that firms are rational and will try by all means to minimise costs and maximise profits.

This is evidenced by the need to prioritise and favour internal sources of funds as opposed to external sources. Decisions to finance business operations is based on the outcome of weighing costs and benefits of securing capital funds. This is typical of firms and firms in most cases especially banks will show a strong behaviour to favour cheaper capital financing methods. This therefore implies that expensive capital financing methods (debt and equity) are inversely related to firm performance and that the opposite can be said for cheaper capital (internal) financing methods.

2.5 The influence of regulatory requirements on bank capital

The introduction of the Basel Accord in 1988 brought about in what is termed risk based capital ratios and since its development there has been an increase in capital ratios from 9.3% in 1988 to 11.2% in 1996 with the initial Basel capital adequacy ratio being set at 8% in 1988 (Cebenoyan& Strahan,2004). However, different rates could be observed between economies and this was triggered by cultural differences, regulatory, industrial, accounting standards and differing tax factors. Since after the inception of Basel Accord, capital ratios have increased and the increase in capital ratios has also been influenced by some banks which have been setting their rates above the Basel rate. Thus capital requirements are presumed tom have an upward effect on capital ratios (Molyneux& Thornton, 1992). The reason behind the introduction of capital ratios was to deal with operational risk, market risk and capital risk with a sole aim of ensuring that banks have adequate capital to absorb losses and meet the required obligations (Froot& Stein, 1998). The effects can be analysed in three categories and these are;

- Basel I: Its introduction was targeted at ensuring that financial institution have adequate capital and this was because of incidences which were recorded which showed that unexpected losses were affecting capital adequacy (Cebenoyan& Strahan,2004). As a result, financial institutions' assets were grouped into five groups 0%, 10%, 20%, 50% and 100%.

- Basel II: This was an improvement to Basel I and placed emphasis on the use of disclosure to boost market discipline thereby promoting good banking behaviour, a review of internal assessment and capital adequacy and minimum capital requirements (Vong& Chan, 2009).

- Basel III: Its introduction was caused by the 2008 financial crisis and the Lehman Brothers incidence which was characterised by too much leverage, wrong incentive structures, bad risk management and poor governance (Abor, 2005).

Basically, it can thus be noted that capital requirements have an effect of causing an increase in capital ratios to curb among others issues of risk, poor governance and unexpected losses. Banks are therefore required to adjust their capital levels in line with the regulatory requirements and their banking activities and operational goals.

2.6 Importance of capital in the banking sector

It has been established that capital serves different purposes in the financial sector especially in the banking sector where its functions are assumed to be separate from any other institution (Chaudry&Chatrath, 1995). The notable function is that it absorbs losses and this follows insights which were given by (Athanasoglou et al,2008) which highlighted that banks usually plough back profits into the business to further financing ongoing banking activities. As a result, incurring losses will therefore imply that there are limited resources to support ongoing banking activities. This can also be tied to the idea that profits are an engine for bank growth and losses act as a limiting factor to growth (Molyneux& Thornton, 1992).

Capital competence therefore provides a cushion to the bank against inability to finance ongoing banking activities and limited growth potential.There is a perception among bank customers that a highly capitalised bank is the best

bank to bank with (Sufian&Habibullah, 2009). This idea of having sound capital by banks is still considered to be a strategy that increases depositors' confidence about the bank (Chaudry &Chatrath, 1995). This can be explained by the idea that banks with insufficient capital can go bankrupt any time in the future and this increases bank customers' risk of losing their deposits. (Sufian and Habibullah,2009) also outlined that in the event of an increase in demand deposits, banks with high capital resources are more able to meet such needs at a relatively short time span compared to banks which have little capital reserves. In other words, bank customers regard banks with high capital resources as less risky and hence their confidence towards those banks will be high.

In the banking sector, bank capital is used to provide an indication of the risks investors will bear. (Athanasoglou et al,2008) suggested that a volatile banking environment is considered to be too risky and hence requires banks to have high capital reserves and under such cases bank capital is said to be a risk mirror.

Risks in the banking sector can either be interest rate risks which are associated with failure by bank customers to pay back the interest levied on borrowed funds (Molyneux& Thornton, 1992). The other type of risks is liquidity risk which occurs when banks have limited liquid resources to meet demand (Vong& Chan, 2009). Irrespective of the risk that banks can face, the notable type of risk is associated with liquidity and the demand for deposits and capital therefore has to be increased to match such risks and positions the bank to meet sudden and unexpected increase in the demand of deposits by depositors.Lastly, it offers a better idea of the need to make a choice about the financing methods that can be used by a bank (Vong& Chan, 2009). In the event that a bank needs funds to support and boost banking activities, they face a choice as to ether borrow or issue shares. So there is always a choice between debt and equity and banks will opt to use a cheaper method. Capital thus reflects which method of financing has been used by the bank and by that one can easily tell that the method used is cheaper.

2.7 Determinants of capital competence

Capital competence is surrounded by the interplay of a lot of factors and such factors can influence how bank capital can interact with other banking activities to influence profitability. It is therefore to identify and examine how such factors influence capital competence.
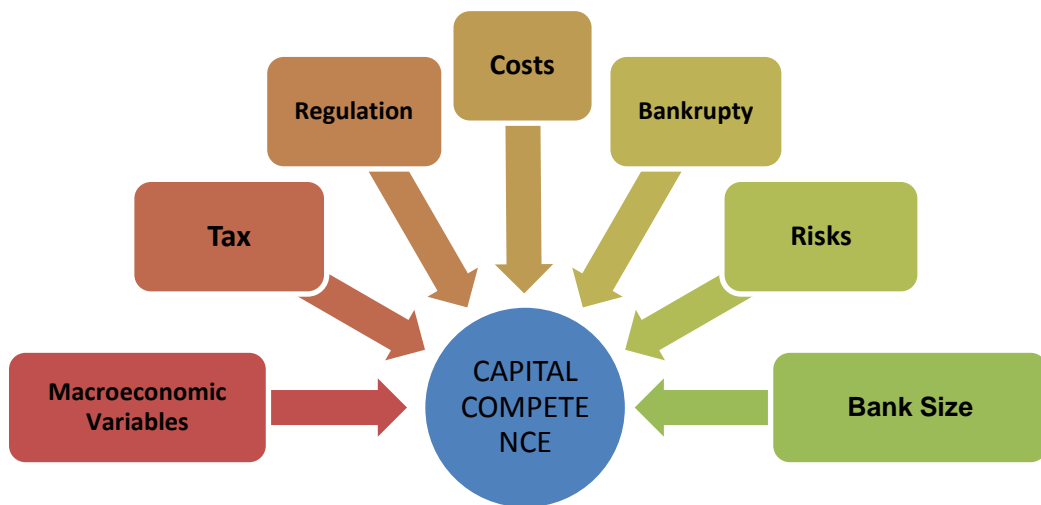
Figure 2.1: Determinants of capital competence

Source: Tewara (n.d: pp.68)

This section therefore offers an outline of these factors and how they pose an effect on the amount of capital banks can raise. The determinants of capital structure in this study will be discussed based on ideas given by Tewara (n.d) which looks at the determinants of capital structure.

2.7.1 Macroeconomic variables

Macroeconomic variables have a strong influence on banking activities and their influence can either promote banking operations and growth or affect it and a bank's response to changes in macroeconomic variables is done so as to ensure that it will survive, earn more profits and continue to grow in the future (Gaud et al.,2005). One of the instruments that banks can use to address changes in macroeconomic variables is capital (Abor,2005).

For instance, an increase in inflation means that money has lost its purchasing power and that the value of assets being hold by the bank will depreciate.

2.7.2 Tax

Tax is a stumbling block to bank growth and high taxes can stop banks from investing in certain activities which require more capital to finance them. This can be supported by ideas given by (Awunyo& Badu,2012) which showed that tax rates provide an indication of whether capital should be raised to finance an activity and if the tax rate that is going to be levied on a project or if returns from an asset are to attract high tax rates, then banks are reluctant to raise capital towards that asset or project. Taxes paid by banks are either corporate taxes, capital gains tax or income tax.

2.7.3 Regulation

Monetary authorities are tasked with a mandate of creating a conducive banking environment and ensuring that banks are effectively functioning well to support economic activities. One of the notable role of monetary authorities is to assist banks to fulfil their financial intermediary role but this ability can be compromised by risks and other events. It is therefore importance for the government to intervene and ensure that such abilities are not being affected (Gropp&Heider, 2010). In addition, consumers might also at the expense of promoting financial intermediation.

(Huizinga,2000) outlined that financial and banking crisis may cause both consumers and banks to lose their money and hence monetary authorities will enforce high capital requirements or capital adequacy ratios on banks so as to cushion against such risks.

2.7.4 Costs

There are basically two main ways that can be used by banks to raise capital and each method used is determined by the associated costs banks will incur in the process (Cebenoyan& Strahan,2004). This therefore implies that banks will opt for capital which is cheaper to obtain. Given a choice between debt and equity, banks will compare which one is cheaper and opt for it and this in most cases places a limit on the amount of capital a bank can raise and hence will have at a certain period of time.

2.7.5 Bankruptcy

When a bank goes bankrupt, not only depositors will lose but also other individuals and corporations that rely on banks as a source of funding. The level of competition will also decline as each bank exit the market and causing an increase in unemployment (Amidu,2007). Thus it is important to ensure that no banks gets bankrupt and raising capital reserves by the Central Bank will ensure that banks have the necessary support to deal with problems that may cause them to goes bankrupt.

2.7.6 Risk

Capital as noted earlier has been established to be a method of cushioning banks against operational risks and other type of risks such as liquidity and interest rate risks. High capital therefore implies a better position for banks to handle banking uncertainties and sudden demand in deposits which curbs bank runs.

2.7.7 Bank size

Banks are in different sizes and some are small while others are medium and other large (Abor,2005). What separates these types of banks besides total assets which provide a measure of how big the bank is, total capital required by Central banks to register a bank under one of these categories also plays an important role. Hence we can expect that large banks will have high capital competence as compared than smaller banks.

2.8 The notion of bank performance

Bank performance is one of the key issues that continues to dominate headlines in the economic and business sectors. This follows ideas which have shown that banks are a powerful engine that can be used to stir up economic growth and development (Athanasoglou et al., 2008; Molyneux& Thornton, 1992). This is because banks play an intermediate role that sees them transferring funds to economic agents that want to undertake productive economic projects.

Hence, their operational effectiveness plays a vital role to the well-functioning and attainment of economic goals such an employment, investment, trade, export etc.

Bank performance has also been tied to the ability to counter competitive pressure (Gill, Biger, &Mathur, 2011). This follows ideas which have shown that profitable banks have huge amounts of resources which that use to develop new strategies, programs and products that can counter market competition (Sufian&Habibullah, 2009). It has also been established that banks that can easily respond to competition are in a much stronger position to survive and grow (El-Sayed, 2009). Market response also includes responding to banking opportunities whilst they are still available, that is before other bankers flood and take advantage of them. Hence, it is important it is important to maintain good performance in terms of bank profitability.

Bank performance is also an engine to power bank growth and expansion programmes. There are markets which banks have not fully serviced and these must markets must be catered for if banks are to make more profits. In order to do so, banks require funds again and the most affordable and convenient source of funds banks can use to finance such programmes is profits (De Mesquita & Lara, 2003). Moreover, there also markets which banks may not have entered and such markets have to be exploited. This also requires funds and not just funds but affordable and convenient sources of funds. Hence, it can see bank performance is necessary for banks to engage in growth and development programmes.

Mush of the research and development programmes that are carried out by banks are financed from retained earnings (Abor, 2005). Hence, the more profits banks will make, the greater the chances and feasibility of them to implement such programmes. Research and development programmes are important for banks especially nowadays when the banking and economic environments are drastically changing. This calls for banks to come with new products, process and services that will be able to accommodate the new banking outlook. Innovativeness also tied to research and development programmes. This is because the need to innovate is made possible by research and development programmes.

Thus, research and development programmes are a tool which is used to help achieve bank innovativeness (De Mesquita& Lara, 2003). As noted above, efforts to innovate require that banks set aside funds to finance such programmes and efforts. It is often difficult to engage in research and development programmes when banks are facing severe performance challenges and this puts a huge threat on their future survival prospects. From these ideas, it can therefore be seen that bank performance is an important aspect for bank managers, bank users, the public as well and policy makers like the government. Deductions can also be made that bank performance is tied to banks' survival prospects, growth and expansion potential.

2.9 Determinants of bank profitability

Besides capital competence, there are other variables which can cause changes in bank profitability and such factors need to be accounted for. In addition, by accounting for these factors, a sound and proper analysis of the impact of capital competence on bank profitability can be attained. This section therefore looks at the determinant of bank profitability.

2.9.1 Size

The relationship between bank size and profitability is built on the premise of economies of scale. According to(Sufian and Habibullah,2009), large banks are well positioned to benefit from economies of scale and hence costs fall as output rises. In addition, there is a huge element of mass production in large banks that causes costs per unit to fall. As a result, profitability increases for each service unit offered by the banks. Bank sizes in determined by total assets of the bank and banks with a lot of total assets are more capable of using those assets to generate more income.

2.9.2 Liquidity

Liquidity has a chance to transform the profit earning capacity of the bank assuming that there are profitable projects and assets that can be invested into. Failure to have profitable projects that banks can undertake, an excess liquidity held by the bank will have an opportunity cost and banks can lose on potential revenue earning capacity (Vong&Chan, 2009). However, a low liquidity will have a profound effect on profitable on the base that high revenue inflows are being generated from the assets as compared to costs that are being incurred to service and hold the assets (Sufian& Habibullah,2009). Thus the relationship between liquidity and profitability can either be negative or positive depending on circumstances.

2.9.3 Industry concentration

Banking sector concentration also play an important role in determining the level of profits banks will make and the structure conduct-performance-paradigm provides an indication of how industry concentration influences bank profitability. According to (Bourke ,1989), the greater the market power a bank has or the higher the concentration factor the more favourable the bank will be positioned to make high profits. This is because market power allows banks to come up with fees and charges that are relatively higher than those that will be charged under normal circumstances. Thus the relationship between profitability and concentration is considered to be positive.

Market power however was established to hamper efficiency in most cases as there is no incentive to lower costs. (Athanasoglou et al,2008) outlined that the presence of competition in an industry provides an incentive for banks to innovate their operations to reduce costs and improve service delivery. Thus an increase in profitability due to a decline in costs is as a result of an improvement in efficiency.

2.9.4 Revenue diversification

Banks have of late been looking for other channels of making money and this follows severe changes that have been witnessed which have been affecting bank operations causing an alterations in income earning activities. This has also been facilitated by a rise in competition within the financial sector with non-financial players venturing into financial operations (Molyneux& Thornton,1992). Thus diversification provides a better way of banks to earn huge profits as they diversify into different assets and projects.

2.9.5 Efficiency

An improvement in efficiency allows banks to perform their traditional duties in an efficient manner. Recent improvements in financial communication and information technology have had a significant positive impact on the banking sector (Chaudry&Chatrath, 1995). However, it has been established that banks have been facing severe operational efficiency challenges as noted by a decline in cost-income ratios and in different magnitudes (Sufian and Habibullah, 2009). This implies that expenses were or can be lower over a certain period of time and later on start to rise for a certain time span. This denotes that operational efficiency is an important element in improving bank profitability. (Athanasoglou et al,2008) also supported this idea and contended that operational efficiency is in most cases way better than attaining economies of scale. This is because it has been noted some banks can have costs that are 20% higher than the industry scale and hence strategies that are aimed at effectively managing resources, improving product mx and X-efficiency. Efficiency and bank profitability are therefore unilaterally related.

2.9.6 Financial structure

Favourable conditions and credit growth have in the past increased especially in European banks (Sufian&Habibullah, 2009). This is because the financial structure in Europe is presumed to have grown international financial markets which facilitated the growth in the size to long term wholesale markets (Sufian&Habibullah, 2009). Though such a mover has had a positive impact on structure, the financial costs have been exorbitant. The idea behind the structure of how the financial institution influences profitability lies in the notion that a financial structure provides either condition that can warrant growth and survival or losses and bankruptcy. Thus a stable and well developed financial structure is more favourable for high profitability. (Chaudry and Chatrath,1995) outlined that financial structure can be determined by the level of total deposits to total liabilities.

2.9.7 Asset structure

There is a general belief that bank profitability tends to increase following a growth in loans portfolio (Athanasoglou et al., 2008). The decision to hold a huge loan portfolio is also associated with huge costs and it is therefore important to ensure that the loan portfolio generates revenue inflows that can outweigh costs. However, (Sufian and Habibullah,2009) contend that a high loan portfolio is more capable of generating huge profits into the bank especially when mark-up pricing is applied. Loans portfolios have a problem of liquidity risks and reduces the bank's ability to acquire new assets and the ability to set off liabilities. As a result, banks with a very low proportion of liquid assets enjoys high profitable returns but loans growth and profitability tend to move in a parallel direction.

2.9.8 Asset quality

A balance with high quality indication of effective banking strategies and this results in an improvements in profits made by the bank. Alternatively, (Athanasoglou et al.,2008) highlighted that poor asset quality are adversely related with bank profitability and this is because such assets are not in a position to generate income and may be requiring expenditure to be spend on them so as to maintain their physical condition or to service them. Moreover, a lot of gross margins has to be used as a provision against unexpected losses and this reduces the profitability level. Thus asset quality can be said to be positively related with profitability.

2.9.9 Macroeconomic determinants

Changes in macroeconomic variables poses an effect on bank profitability and it has been established that a better macroeconomic environment provides a good atmosphere for banks to earn more profits (Chaudry&Chatrath, 1995). For instance, an increase in economic growth and activities provides an indication that there is a demand for banking roles in the economy either to provide funds or assist corporations in getting access to funds (Molyneux& Thornton, 1992). This can also be attributed to an increase in the number of people banking their money with banks as disposable income continue to rise.

Variables such as inflation and unemployment have adverse effects on bank profitability. This is because inflation erodes the purchasing value of money and consumers will withdraw their funds from banks in fear that they will lose their value (Athanasoglou et al., 2008). Such cases reduce the amount of funds banks can issue to make more profit or can invest in other activities. Banks assets which have a fixed value and constant interest rates will also face a decline in value which causes banks to lose on profitability. Hence, inflation in this case can be said to hamper profitability. Unemployment on the other hand, results in a decline in disposable income and this means that there is a reduction in the amount of disposable incomes passing through banks and hence banks will be facing a reduction in income collected from fees and other charges (Sufian&Habibullah, 2009).

Economic and financial crisis are associated with negative perceptions by the bank customers towards banking institutions and other financial institutions. This can be evidenced by the 2008 financial crisis in which a lot of depositors lost their deposits and most banks went bankrupt (Vong& Chan, 2009). Bank runs and panic behaviour are high during periods of economic and financial crisis and banks in such cases tend to underperform (Chaudry&Chatrath, 1995).

Banks can also hold assets in other countries or in foreign currency denominated value and changes in exchange rates will have a significant impact on returns that are to be made from these assets. Holding assets in another country or in foreign dominated assets is a form of diversification and high returns can be made when the exchange rate moves in favour of the currency in which the assets are denominated and vice versa (Sufian &Habibullah, 2009). Thus we can expect an exchange rate appreciation to have a positive impact on bank profitability.

2.10 The relationship between capital structure and bank performance

What makes this study an important towards contributing to existing literature sources on the study of the effects of capital on the financial performance of firms, is that there are no common agreements that have been made concerning both the effects and relationships that exist between capital and firm performance. Hence, using such studies to offer explanations as to how capital will affect the financial performance of banks in Turkey might not give a proper description of the actual situation under study. This can be supported by ideas by(Ramadan and Ramadan,2015) which asserts that differences in relationships between variables are bound to be observed because of differences in the level of economic growth and development. This is relatively true to a large extent and this is because variables such as capital tend to have different effects on firm performance depending on the level of economic development of that economy. This can be supported by ideas given by (Arbabiyan and Safari,2009) which contends that highly developed economies are in a strong position to enjoy from economies of scale due to the absence of limitations that affect the smooth flow of capital resources within the economy. The level of corruption also plays an important role in determining how economic or firm variables interact to influence the relationship between capital and firm performance. For instance, it has been established that the high level of corruption in most African countries has a negative effect on economic and business outcomes such as firm performance as compared to highly developed economies such as the USA (Abdel-jalihl, 2014; Memon et al., 2012).

Either way, the above ideas do provide strong evidence that the relationship between capital and firm performance is not always the same between two economies. In some cases, in can be positive while in some cases in can be negative. There are some studies which have managed to illustrate that there is a high possibility that there can exist no relationship between capital and firm performance. This section therefore evaluates existing literature on the impact of capital on firm performance with regards to a no relationship, negative relationship and positive relationship.

2.10.1 Ideas on the existence of an insignificant relationship

Though the relationship between capital and firm performance can be established to be either negative or positive, such a relationship can also be either significant or insignificant. This is important because firms desire to ensure that additional increases in capital will have huge or significant effect on firm performance (Velnampy&Niresh, 2012). If not, then such increases in capital might be considered not to be yielding the much intended outcome. Hence, firms might opt not to secure additional capital funding. Meanwhile, (Ebaid ,2009) found that increases in capital have insignificant effects on the performance of capital market firms in Egypt. This also concurs with findings made by(Safiuddin et al,2015) in Bangladesh. The study denoted that there are conditions which affects how capital can be used to improve financial performance and these conditions doe sometimes vary with the industry or sector in which the firm is operating. It however highlighted that both the 40 financial and non-financial firms that were studied, showed insignificant changes in performance in response to changes in capital structure. This supports ideas which have been established which showed that firm specific factors such as business risk and taxation levels have a tendency to reduce the effectiveness of capital to influence positive changes in performance (Shun, 1996). Deductions can thus be made that it is imperative to ensure that increments in capital will have profound positive effects on performance. If not, then the need and importance of having additional capital might be rendered ineffective or unnecessary.

2.10.2 Ideas on the existence of a negative relationship

Just as a positive relationship can be obtained capital structure and performance, a negative relationship can also be obtained. This can be supported from a study conducted by(Chakraborty ,2010) which outlined that increases in capital have adverse effects on performance. The argument was that performance is very subjective and is in most cases examined to be profit before tax and interest costs are deducted.

(Manawaduge et al,2011) drew focus on a panel of 155 firms in Sri Lanka to offer explanations on how changes in leverage affect firm performance. The findings are in support of the conclusions made by (Chakraborty ,2010) which contends that high leverage results in an increase in profitability. What it therefore implies is that debt is a better way to leverage operations than equity and this can be as a result of transaction and information costs that are incurred by the issuing equity finance. When it comes to banks, the results suggest that it is possibly better for banks in Turkey to obtain debt finance as opposed to equity finance and that positive changes in debt finance has a positive effect on performance.

(Salim and Yadav,2012) did a panel analysis of 237 firms that are based in Malaysia to assess how changes in debt financing affect a firm's profit generating capacity. Tobin's Q, ROE, ROA and EPS were used to measure changes in firm performance following changes in debt financing. The results provided strong evidence that both short term and long term debt have adverse effects on performance. The results point to the idea that both short term and long term debt are associated with high interest costs that have a tendency to cut into profits made by the firm. In the case, it does not offer benefits to firms to increase their capital structure by borrowing funds. Thus, leaving an idea that equity funding is more desirable than debt equity but still in that case, increases in capital structure were still considered to be having negative effects on performance.

(Soumadi and Hayajneh,2012) used Tobin Q and ROE as performance indicators and how they respond to changes in capital structure. The study argued that increases in capital structure will lower a firm's performance level as noted by a decline in both Tobin Q and ROE. This denotes that not only firms are directly affected by increases in capital structure but also their shareholders who will witness a decline in returns which they get from investing in the firm. Hence, shareholders of banks in Turkey also more likely to suffer from a decline in returns which they get by allowing bank mangers to raise additional capital funds. This also follows similar ideas which were established by (Shubita and Alsawalhah,2012) which outlined that efforts to use debt finance results in a decline in shareholder earnings.

(Muritala ,2012) looked at how variations in leverage affects the performance of firms in Nigeria. The study used panel data analysis methods to analyse secondary data collected from a sample of ten firms and the results concurred that capital structure is adversely affected by increases in capital structure. In such a case, it is not conducive for banks in Turkey to increase their capital structure but they can possibly strategically manage their capital funds in a manner that will positively contribute to the success of the banks.

(Memon et al,2012) used an OLS approach to analyse how the financial performance of 141 firms operating in the textile industries in Pakistan responds to changes in capital structure. The study reported that the firms' ROA varies inversely to changes in total debt levels (leverage) implying that a capital structure negatively affects a firm's financial performance.

Evidence on the existence of a negative relationship between capital and firm performance is still continuing to being established. For instance, a study by (Abdel-jalihl,2014) also established that there is a significant two way relationship that exist between capital and firm performance. A study by (Ramadan and Ramadan,2015) also concurs with such an idea but outlines that both short term and long term debt hamper a firm's ability to make profits.

From these ideas, it can therefore be established that potential changes in capital have also a high probability to result in negative changes in performance. As a result, one can also contend that the negative effects of increases in capital are as a result of unfavourable conditions and outcomes that surround the use of the additional capital funds. Whether such additional funds are resulting in increased interest, information or transaction costs, arguments still remain that additional capital can also hinders improvements in financial performance of firms.

2.10.3 Ideas on the existence of a positive relationship

(Abor,2005) conducted a study that examines how capital structure influences the performance of firms that are listed on the Ghanaian Stock exchange. The findings showed that notable positive effects of capital structure are observable on return on equity. This implied that positive changes in capital structure were observed to be causing a positive change in firm performance. (Saunders and Cornett,2003), asserts that it is good for firms to have high capital structure and possible suggestions imply that there is effective and efficient usage of capital structure by firms. This suggests that firms that are able to devote capital funds towards productive sectors, projects and assets will be in a strong position to make huge profits. Thus the ability to effectively use capital resources is thus what sets a difference between those firms that are able to make more profits from capital and those that will not make losses. This can also be used as a recommendation upon which banks in Turkey will be encouraged to effectively use their capital funds and identify profitable areas, assets and projects towards which they can spend those funds.

(Arbabiyan and Safari,2009) also conducted an analysis of 100 firms to examine how capital structure affects the performance of firms in Tehran. The study also placed efforts on examining how different types of capital structure (short term and long term debt) affect firm performance. The study results showed that there is a unilateral association between positive changes in both short term and long term debt, and firm performance as measured by ROE.

The study are in confirmation of the findings made by (Abor,2005) and this supports the idea that increases in capital structure have favourable effects on the performance of firms. The findings also showed that short term and long term debt have different effects on firm performance. This can be evidenced by conclusions which were made which showed that long term debt has adverse effects on ROE while short term was established to be having a positive effect on performance. This can possibly mean that long term debts are too risky for firms to give out and hence they require high levels of interest rates to cater for such high risks. High interest rates levied on long term debts are expenses that can end up reducing profits earned by the firm. This can be reinforced by arguments given by (Rao, Al-Yahyaee& Syed,2007) which contend that short term debts are possibly cheaper for firms to use to finance their capital needs. This is because they attract low interest rates over a short period of time and firms are sometimes productive enough to obtain high returns that will be high enough to cover interest payments. Alternatively, it can be said that benefits obtained from using such capital funds are huge and outweigh the costs of capital funds leading to an increase in profitability.

(Salteh et al,2012) conducted a study with a sole aim of verifying the existence of a relationship between capital structure and performance of firms in Tehran. The study focused on 28 firms listed on the Tehran Stock Exchange. The results are in confirmation of findings made by both(Abor ,2005 and Arbabiyan &Safari,2009) which established that positive changes in capital structure will result in improvements in firm performance. The main difference that was obtained between these studies, is that the study by (Salteh et al,2012) managed to establish that both short term and long term debt are unilaterally related with firm performance. This contracts with the idea that long term debts are expensive because of high interest costs.

This suggests that firms are possibly making high profitable returns which are able to cover all interests cost leaving the firm with high profit margins. This suggests that both short term and long term debts have a potential to cause favourable changes in performance so long as the expected returns are high enough to cover all the interest expenses incurred from securing such funds.

(Umar et al,2012) also did a study of hundred firms to see how firm performance varies to changes in capital structure. The study concentrated on the effects of capital structure on EPS, NIM and ROA and the findings provided evidence of the existence of a strong positive relationship between firm performance and capital structure. The concluded findings were noted to be in line with the trade-off theory and it was deduced that improvements in capital structure are necessary for continued improvements in performance.

(Niiko ,2015) analysed the performance of seventeen banks over a four year period using secondary data. The results went on to confirm and reinforce the idea that positive changes in capital structure are necessary for good performance. Hence, firms that desire to observe positive changes in performance were encouraged to boost their capital resources.

From these ideas that are given which show that improvements in capital structure have a high tendency to cause positive changes in firm performance, it can therefore be deduced that increases in capital structure are necessary. This can either be due to the reason that high capital structure acts as a cushion which banks can use to guard against potential risks that undermine efforts to improve firm performance or threat survival. In most cases, this can possibly be as a result of the idea that such capital funds are being productively being used towards projects and assets that have a high capacity to generate high returns. In addition, benefits obtained from increasing capital funds can be concluded to be greater that interests and transactions costs that are incurred in securing capital funds. Hence, direct and indirect revenue inflows will be far greater than costs incurred leading to improvements in performance.

2.11 Literature review on bank profitability and capital competence

(Siam&Khanji,2015), conducted a study to determine how capital competence affects the financial performance of banks in Turkey. The study contends that changes in capital are as a result of the risk structure of the banking environment. Meaning to say that high banking risks triggers upwards changes in capital. The study employs regression analysis to determine the relationship between capital competence and bank profitability using three ROA, ROE and EPS models. The results showed that capital competence is positively related with bank profitability but the relationship between capital competence and ROE and EPS was established to be significant while that of ROA and capital competence was discovered to be insignificant. (Zafar et al,2016) examined the effects of capital structure on bank profitability in Pakistan. The study applied OLS procedures on data collected from 25 commercial banks using 3 profitability models, that is, ROE, ROA and NIM. The results from the study showed that all capital structure determinants are positively linked to upwards changes in bank profitability. (Ayaydin and Karakaya,2014) examined the influence of capital on bank profitability drawing focus from 23 commercial banks in Turkey from 2003 to 2011. The results obtained from a 2-Stage GMM showed that the relationship between profitability and bank capital can either be positive or negative depending on circumstances but in most cases the relationship is positive.

(Osborne et al,2009) used an OLS approach to analyse the influence of capital on bank profitability in USA from the period 1977-1981. The study looks at the interaction of capital and profitability before and after the financial crisis and the findings showed that before an economic crisis capital and profitability are positively related but the relationship varies from one bank to another and that such a relationship is negative after a crisis and for most banks. The findings also showed that there are cosy of compliance that are incurred in ensuring that banks have the required capital to finance activities and guard against risks.

(Mathuva,2009), assessed the relationship that exists between commercial bank performance and cost income ratio and capital adequacy in Kenya between the periods 1998 to 2007 using an OLS approach. The study highlights that performance of commercial banks in Kenya was changing in response to changes cost income ratio and capital adequacy. Thus improvements in profitability are assumed to be a function of the risk structure of the bank. This is due to the idea that investors and bank customers are more willing to engage in banks whose risk structure is low. Risk and capital adequacy were established to be positively linked to profitability.

(Hutchison and Cox,2007) provided evidence on the impacts of bank capital on profitability in USA. The study provides evidence to the existence of a positive relationship between profitability and bank capital. Both ROA, ROE and EPS were established to be moving upwards in relation to positive changes in capital. The more capital a bank possess, the more it can invest in profitable projects and assets. Hence more income generating assets are acquired which cause income inflows to begin to increase.

(Lee and Hsieh,2013) provided evidence as well to the existence of a positive relation between risk, capital and profitability in Asia's banking sector. The study outlines that high risk causes monetary authorities to raise capital requirements so as to safeguard bank customers from default and solvency risk. The results also showed strong evidence that highly performing banks are those which have high capital competences.

(Rime,2001) established that changes in capital competences is as a result of changes in bank behaviour. When banks begin to act in a manner that puts bank customers and the entire financial sector at risk, monetary authorities are forced to scale up capital requirements. This emphasises the idea that a high quality financial sector is the one that that has high capital competence. The financial position of banks is thus seen as rising with the level of capital among the banks.

(Awunyo and Badu,2012) concentrated their efforts on the study of variation in bank performance and capital structure. Using panel data from 2000-2010, panel GLS results revealed that capital structure and performance are inversely related with each other. This implied that too much capital represents funds which are lying idle and should have been used to generate future income flows. Such entails that if banks are to earn huge profits then excess or available capital resources should be devoted to income generating activities.

(Bergerand Di Patti,2006) employed the agency theory to examine how capital structure affects performance. The study bases its arguments on the idea that management will always act in a manner that will result in the maximisation of performance and hence require huge capital resources to engage in activities that will result in the expansion of the firm. (Chaganti and Damanpour ,1991) looked at firm performance, capital structure and institutional ownership. This provided support to ideas given by (Berger and Patti,2006) and contends that the best use of capital resources is in most cases which maximises the profit levels earned by a firm. Thus expectations are that efforts by bank managers will also be to maximise profits earned and will require more capital resources from shareholders in order to expand and support their activities. (Naceur andKandil,2009) argued that capital competence is associated with costs that may reduce bank profitability from 2000-2010. This is based on the idea that capital competence is associated with cost of intermediation in Egypt. When banks fail to transfer intermediation costs on customers, a decline in profitability is sometimes unavoidable. Thus cheaper capital that comes from owners of the business is seen as being effective unlike loans made to the bank. (Naceur,2003) also argued in support of the findings made by (Naceur and Kandil,2009) citing that conditions under which capital competence affects profitability are different between banks and tend to vary in nature. This therefore implies that operational activities as well as macroeconomic elements in which the banks operates must also be assessed.

(Guru et al,2002) did a study to determine what influences the profitability of banks in Malaysia. The study outlines that it is not only capital competence that affects bank profitability.

The study showed that elements such as net interest margin, efficiency and liquidity also influence the level of profitability earned by banks.

2.12 Summary of related literature

Table 2.1: Summary of related literature

Author	Country	Variables	Results	Obtained results
Siam & Kanji 2016	Turkey	Bank capita, ROE, ROA and NIM	Capital competence has a positive effect on ROE, ROA and NIM used ols model	(+) relationship between capital competence and ROA, ROA and NIM.
Zafar et al. 2016	Pakitan	Bank profitability, shareholder equity, bank size, bank capital deposits	Positive association between capital structure and profitability used ols model	(+)relationship between shareholder equity, bank size, bank capital deposits and ROA
Guru et al. 2002	Malaysia	NIM, asset quality, liquidity, capital, total assets, asset turnover, non-performing loans	Net interest margin is positively related with, efficiency (asset quality), capital, total assets, asset turnover and liquidity but negatively related with non-performing loans	(+) relationship between ROA and, BL and BC.
Lee and Hsieh 2013	Asia	Risk, capital, ROA, ROE, liquidity, total assets	Positive association between risk, liquidity, total assets and capital competence. used ols model	(+) relationship between inflation but (-) relationship between ROA and, AQ, BL and EG
Hutchison and Cox 2007	Usa	ROA, ROE and EPS and bank capital, total assets, economic growth.	Positive relationship between profitability ROA, ROE and EPS and, bank capital, total assets, economic growth, asset turnover, and deposits. used ols model	(+) relationship between inflation but (-) relationship between ROA and, AQ, BL and EG
Mathuva 2009	Kenya	bank performance, cost income ratio and capital, total assets, inflation, loans	Risk, loans, total assets and capital adequacy were established to be positively linked to profitability but negative effects between bank performance and inflation.	(+) relationship between ROA and BC, CPI and (-) relationship between ROA and, BL and AQ.

Author	Country	Variables	Results	Obtained results
Ayaydin and Karakaya 2014	Turkey	Bank capital, total assets, deposits, non-performing loans, bank profitability	The positive relationship between profitability and bank capital can either be positive or negative depending on circumstances. In most cases the relationship is positive . used 2-stage GMM model	(±) relationship between BC, CPI and ROA and (-) relationship between ROA and, BL, AQ and financial crisis.
Osborne et al. 2009	USA	Capital, bank profitability,	Capital and profitability are positively related but the relationship varies from one bank to another.The relationship is negative after a crisis and for most banks. used ols model	(±) relationship between BC and bank performance, a (-) relationship between ROA and financial crisis.
Naceur and Kandil 2009	Egypt	Capital, cost of intermediation and bank performance	Capital regulation improves bank performance. use ols model	(+)relationship between capital regulation and bank performance and (-) relationship between cost of intermediation and bank performance.
Awunyo and Badu 2012	Ghana	Effect of capital structure on bank performance.	Panel GLS Performance and capital structure are inversely related. use Panel GLS	(+)relationship between BC and CPI
Berger and Patti 2006	USA	Shareholder capital structure, total assets, asset quality, loans, deposits and bank performance	Positive association between performance andtotal assets, asset quality, loans, deposits and capital structure. use 2SLS	(+) relationship between ROA and BC and (-) relationship between ROA and AQ, BL, CPI and EG.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research design

The study assumes a quantitative approach that involves the application of specific and predetermined models to illustrate the nature of association that exist between two or more variables (Greene,2003). This approach was adopted because of its ability to offer more explanatory power as compared to a qualitative approach. Thus an econometric model will be estimated using secondary data and this will also involve the use of diagnostics tests to determine if the estimated models do not have problems and draws attention at Turkish banks.

3.1.1 Research model

The conceptual model showed that bank profitability is a function of capital competence. Bank profitability has been established as being determined by three essential measures and these are return on assets (ROA), return on assets (ROE) and net interest margin (NIM). However, because of data availability issues, one profitability-capital competence model (NIM model) will be developed and used to analyse the inherent linkages that exist between the two variables. These can be illustrated as follows;

Bank profitability (BP)=f (capital competence (CC)) ……………....………. (1)

Bank profitability (BP) = F (capital competence (the ratio of shareholder equity to total assets denoted by CC), asset quality (LAQ),bank capital (BC), bank liquidity (BL), economic growth (EG) and inflation (INF).Attention will be focused on a NIM model because of limited data issues. The data will however be converted to logarithms so as to cater for heteroscedasticity and thus giving the following model expressions;

$$\mathbf{NIM} = \alpha + \beta_1\mathbf{LAQ} + \beta_2\mathbf{LBC} + \beta_3\mathbf{LBL} + \beta_4\mathbf{LEG} + + \beta_5\ \mathbf{LINF} + \mu\dots\dots\dots\dots.. (2)$$

α represents a constant while β denotes an estimator of capital competence and μ the error term. The strength of the relationship will be revealed using p-values while that of the model will be determined using R^2. Capital competence in this study will be measured by a capital ratio of shareholder equity.

Meanwhile, the Autoregressive Distributed Lag (ARDL) model will be used in this study to estimate the effect of capital competence on bank profitability. The ARDL model requires that all variables must not have unit roots at second difference but however their can either be stationary at level or first difference or contain mixed stationarities (Engel & Granger, 1987). Augmented Dickey Fuller and Phillips Perron tests will thus be used to check if the model variables have a unit root or not.

This model was used because the variables were established too be having mixed stationarities. Moreover, this model is suitable for a study with a low number of observations and at such a point, its long run estimators are consistent (Pasaran& Shin, 2001). The ARDL involves the study of the existence of long run cointegration of the model variables and such can be examined using the cointegrating equations and the use of the error term. The error term ($\boldsymbol{\beta_1\mu_{t-1}}$), thus measures the rate at which the model moves back to equilibrium. Incorporating this aspect into equation (2) results in the following expressions;

$$NIM = \alpha_0 + \alpha_1\Sigma^n_{i=0} \Delta LBP + \alpha2\Sigma^n_{i=0}\Delta LAQ + \alpha3\Sigma^n_{i=0}\Delta LBC + \alpha4\Sigma^n_{i=0}\Delta LBL + \alpha5\Sigma^n_{i=0}\Delta LEG + \alpha6\Sigma^n_{i=0}\Delta LIN + \alpha7\Sigma^n_{i=0} \Delta DV \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(3)$$

This will thus be confined to the estimation of the effects of capital competence on bank profitability using the ROA model as noted by expression (3).

3.1.2 Diagnostic tests

The Durbin Watson tests will be used to determine if the developed model models not have Serial correlation problems. Serial correlation is a problem that occurs when the error terms are correlated (Gujarati, 2003). This problem affects the estimators and in most cases they might be insignificant with large standard errors. The decision criteria would be to accept that there is no serial correlation when the obtained Durbin Watson value is close to 2. Values above 2 would indicate the problem of negative serial correlation while a positive serial correlation is associated with values below 2. The Serial Correlation LM Test can also be used in place of the Durbin Watson statistic to determine the presence of serial correlation.

Consistency of the estimators will also be determined in relation to heteroscedasticity which aims at checking whether the Thus, the Breusch-Godfrey-Pagan test will also be conducted to determine if there are problems of heteroscedasticity. The decision is based on the null hypothesis that there is no heteroscedasticity. Such is accepted when the p-value exceeds 0.05.Heteroscedasticity occurs when the error terms have a non-constant variance and this tends to affect the consistency of the estimators. (Gujarati ,2003) contends that the estimators can remain BLUE, that is, biased linear unbiased estimators but can lose their consistency ability. Null hypothesis for serial and heteroscedasticity can be stated as follows;

- **H_1:** There is no serial Correlation.
- **H_2:** There is no heteroscedasticity.

3.2 Study population

The study focuses on the examination of the influences of capital competence on bank profitability by getting examples and insights from development and investment banks in Turkey. It known that there are 6 private owned development and investment banks in Turkey and this study will focus on examining how capital competence influences profitability of these 6 development and investment banks in Turkey. The name of the development and investment banks that will be looked at in this study are;

Table 3.1:Shareholder equity and capital adequacy ratios of development and investment banks in Turkey- 2016.

	Name Of Banks	Capital ratio (Shareholder equity/total assets)	Capital adequacy ratio
1	Türkiye Sınai KalkınmaBankası	12.2%	14.3%
2	NurolYatırımBankası A.Ş.	13.5%	17.3%
3	IMKB Takas veSaklamaBankası	15.6%	18.1%
4	GSD YatırımBankası A.Ş.	41.6%	15.3%
5	DilerYatırımBankası A.Ş.	80.8%	51.9%
6	AktifYatırımBankası A.Ş.	11.3%	14.3%

Source: BAT (2017)

https://www.tbb.org.tr/en/Content/Upload/Dokuman/139/banks_in_turkey_2016.pdf

3.3 Data sources

Secondary data (combined annual time series data) for all development and investment banks drawn from the Banks Association of Turkey (BAT) was used in this study to ascertain the impact of capital competence on profitability. The main advantage of using secondary data is that it is easily obtainable and it makes it feasible to employ econometric models which allow for deeper understanding of the problem under study (Gujarat, 2003). Thus the period under study ranges from 1961 to 2016 giving a total of 57observations.

3.4 Data analysis and presentation

The undertaking of this study will be facilitated by the use of Eviews 9.0 to estimate the profitability-capital competence model. The obtained findings will be presented in table, graphs and figure formats which helps to depict ideas in a more meaningful format.

3.5 Definition of variables

Table 3.2 provides a description of the model variables that were used in the study.

Table 3.2: Definition of variables

	Variable	Definition	Expected relationship
Dependent variables	BP	In this study the term bank profitability will be taken to profits made by the bank over the course of a business period. NIM will be used as a proxy of BP	-
Independent variables	Bank Capital (BC)	The ratio of shareholder equity to total assets denoted by BC	(+)
	Bank Liquidity (BL)	Indicates how swift the bank can convert its assets into means of payment.	(+)
	Asset Quality (AQ)	Provides a measure of asset quality and how total loans made are bringing in profits to the bank.	(-)
	Consumer price index (CPI)	A measure of inflation (INF) which provides an indication of changes in price levels from one period to another in relation to a basket of goods and services	(+)
	Economic Growth (EG)	Provides a measure of economic performance using gross domestic product (GDP)	(-)
	Dummy Variable (DV)	The dummy variables takes into m account of the effects of the financial crisis that was observed in Turkey from the periods 1994, 2000, 2001, 2008 and 2009. The variable assumes a value of 1 to denote the occurrence of a financial crisis and 0 when there was no financial crisis.	(- / +)

CHAPTER FOUR

AN ASSESSMENT OF THE BANKING SITUATION IN TURKEY

4.1 Introductory insights of the Turkish banking sector

The Turkish banking sector is one of the fastest developing banking sector in the World with the number of banks in Turkey accounting for more than 88.2% of the total financial sector (BAT, 2009). The Turkish banking sector has been witnessing a major increase in the number of banks which increased from 49 in 2013 to more than 55 in 2016 (BRSA, 2018). According to (BAT,2009), by the period 2015, a total of 9 private banks and 3 state owned banks were accounting for more than 66.66% of the Turkish banking assets. Much of other activities that are undertaken by Turkish banks includes securities brokering, core banking services, and other businesses. (BRAA,2018) also outlines that the regulation of the Turkish banking sector is done by the Central Bank and BDDK (Banking Regulating and Auditing Commission) whose sole mandate is to ensure that banks are operating in an ethical manner and have the necessary financial liquidity to support their operations.

Table 4.1: List of banks in Turkey

Category	Number
State-owned deposit banks	3
Privately owned deposit banks	11
Banks under TMSF	2
Foreign deposit banks founded in Turkey	10
Foreign deposit banks having branches in Turkey	6
State-owned development and investment banks	3
Privately owned development and investment banks	6
Foreign development and investment banks	4
Defunct banks	28

Source: Computed using data provided by the BRSA[1]

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[1]https://www.bddk.org.tr/WebSitesi/english/Institutions/Banks/Banks.aspx

4.2 Impacts of recent developments on the Turkish economy and the sector

Global developments that took place around the world caused a decline in world economic activities and output which result in a decline in volume of traded goods. With the 2008 financial crisis dominating in economic headlines, the effects spread to Turkey and became visible in the Turkish economy. According to the (BAT,2009), the Turkish economy witnessed a decline in trade volume by 50% following the occurrence of the 2008 financial crisis.
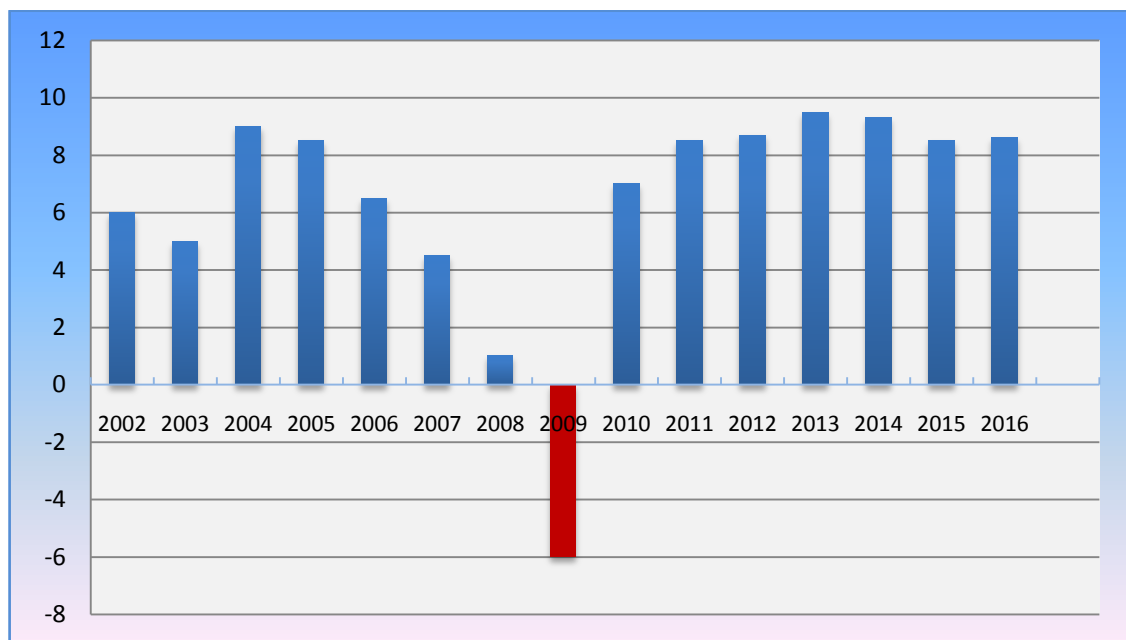
Figure 4.1: Turkey's GDP patterns from the year 2002 to 2016

Source: BAT (October 2017)

Figure 4.1 shows that Turkey's GDP went down from above 4.2% in 2007 to1.4% in 2008 and went further down to -6% in 2009. Thus showing that the global financial crisis has had contagion effects on the Turkish economy. The effects of global developments which included among others, a fall in world output and an increase in employment levels, in which the unemployment rate can be seen to be sky rocketing from the period September 2008 where it was around 10.2% to 16.1% in January 2009 that Turkey's GDP went down from US$7bn in 2010 to US$8.6 in 2016.

There are also notable changes in GDP as noted by increases in GDP in current prices form 2017 and the projected increases in GDP in current prices shows a US$8.6 increase in GDP in 2016 which is relatively higher than the previous changes in economic performance. The effects of global developments which included among others, a fall in world output and an increase in employment levels. This can be evidenced by figure 4.2, in which the unemployment rate can be seen to be sky rocketing from the period September 2008 where it was around 9.7% to 12.6% in January 2009
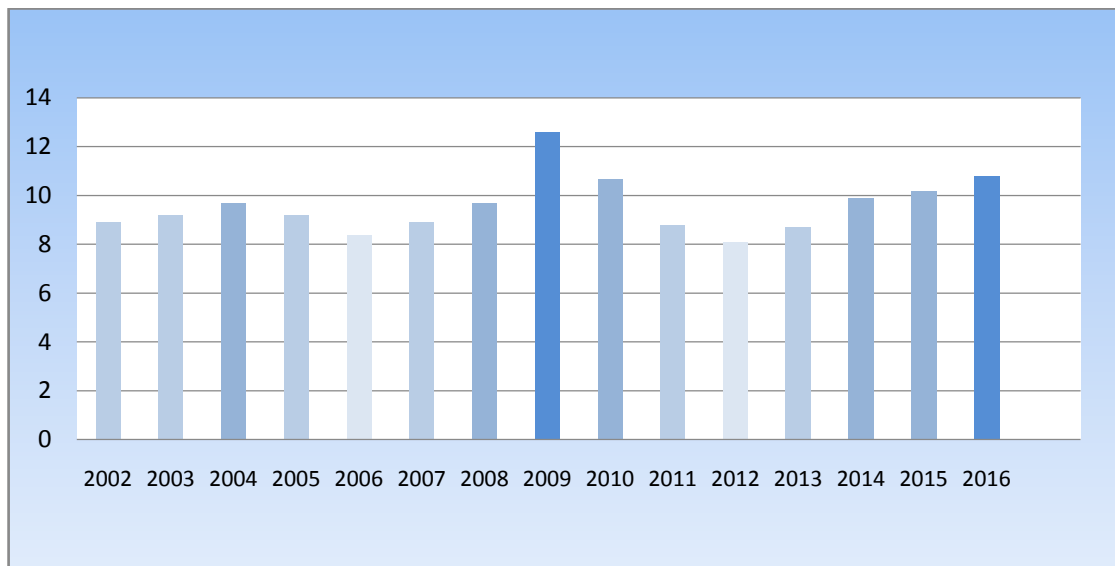
Figure 4.2: Variations in Tukey's unemployment level from the year 2002-2016

Source: IMF (2017)

Meanwhile, some of the challenges that were observed in the Turkish banking sector were as a result of global developments. The impact of global developments on the Turkish banking sector can be illustrated using what is known as "contagion effects" in which economic problems being experienced in other countries spread to other countries (Ion, 2017). However, the extent to which these challenges affected the Turkish banking sector was limited. This is because of good liquidity risk management policies, low currency, high asset quality and the high capital adequacy ratio that was raised by (BRSA,2018).

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Hence, the combined effort played by BSRA and the Central was important towards helping banks remain financially stable against global risks.

Global developments are also considered to have limited the amount of banks' effort to make external borrowings. Ideas by (Mohamad ,2016) showed that the decline in the ability of banks to borrow from external sources was reduced because of high costs of borrowing. As a result, banks in Turkey were forced to introduce better liquidity management policies.

Changes in global developments also about negative effects on the demand for banking services. Turkish banking sector. The (BAT,2009) reports that that there was a sharp decline in the demand for banking services with demand for loans declining by 1% from TL349 967 million in 2009. Banks on the other hand, began to adopt conservative measures towards giving out loans so as to reduce their risk exposure to credit and interest risks. (BRSA,2018) established that the level of loans made in relation to received deposits declined by 76% in 2008. When credit risk is high, the value of non-performing loans also tends to rise again and this poses negative effects on banks' performance.

Despite the occurrence of global developments, risks such as currency risk managed to remain low while mismatch in maturity triggered a rise in interest rates (Civcir, 2005). Banks had to come up with measures to reduce operating costs and this resulted in increases in profitability levels. This can be evidenced by figure 4.3.

Capital Adequacy Ratio and Return On Equity (Yearly,Percentage)
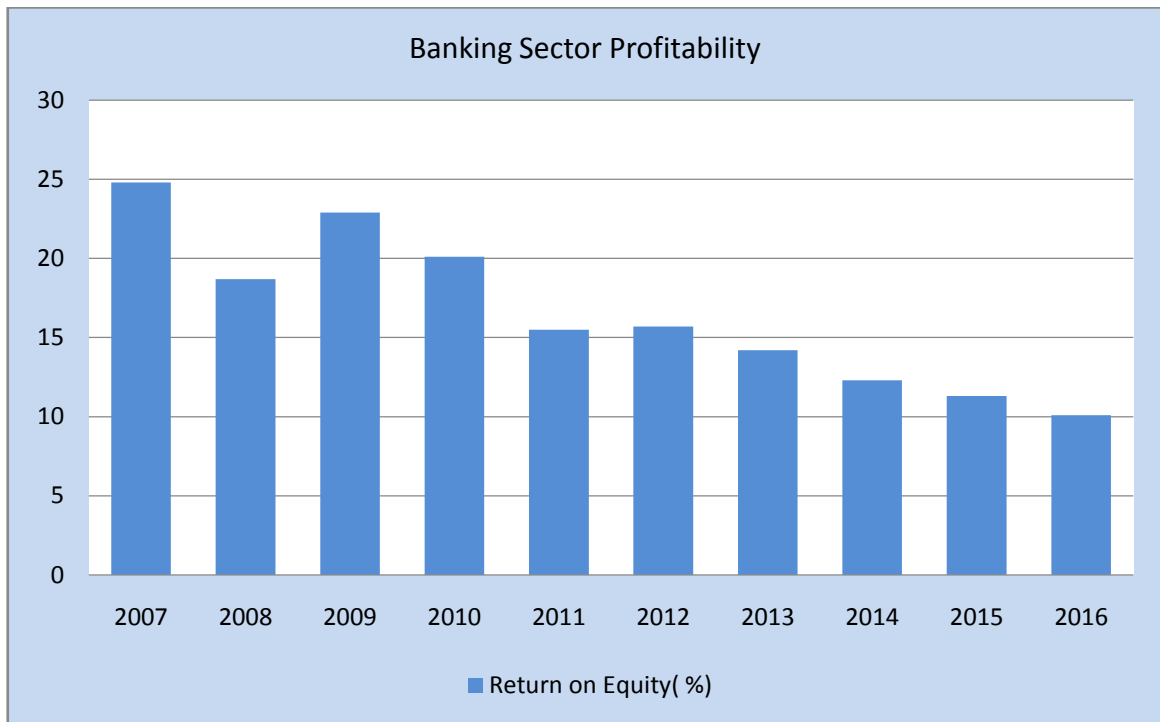
Figure 4.3: Yearly percentages of ROA and capital adequacy ratios of Turkish banks

Source: BAT (2017)

Figure 4.3, shows that there has been a steady rise in capital adequacy ratio which has been causing positive changes in bank profitability as noted by improvements in ROA. (BAT,2009) established that there was an increase in capital adequacy from 18.1% to 19.4% in 2009. But the number of employees employed in the banking sector declined in overall though the number of bank branches is considered to have increased to 8 851 from 8 489 (BRSA, 2018).

4.3 Problems undermining bank profitability in the Turkish banking sector

Though the Turkish banking sector is considered to be in a state of stability, it has been observed that there are problems that are undermining the ability of banks to make sound profits. This can be evidenced from remarks made by the BAT head, Hüseyin Aydın, who outlined that the Turkish banking system has of late and still continue to face notable problems that banking performance (Hurriyet Daily News, 28 October 2016). One of the key challenges affecting banks profit earning capacity has been assumed to be a decline win the demand for loans by the Turkish community (Kaya &Cinar, 2016). The idea of a decline in loan demand has not only been linked to changes in consumer activities but also to the willingness of banks to issue loans. This can be supported by insights given by(Ar and Kurtaran,2013) which contends that Turkish banks have been showing strong signs of not willing to lend money. Issuing loans is one of the ways banks use to make money and hence a decline in loan demand will imply that there will be a decline in potential revenue inflows from loan interests.

Meanwhile, the deterioration of Turkey's funding ability is also another issue to reckon with. This is because a decline in the governments' funding ability will expose banks to a series of challenges like risks that can also lead to a decline in foreign investments made into that country (Mohamad, 2016).

High rising borrowing costs levied on funds borrowed by Turkish banks from the international community is also affecting the performance of bank in Turkey. The amount of loans borrowed by Turkish banks is presumed to be so high that it is reported to be accounting for more than 33.33% of Turkey's aggregate international debt (Cyprus Mail, 30 November 2017).

The value of the Turkish Lira has also been declining against major currencies such as the USD, Euro and the British Pound. Cyprus Mail reports that the value of the Turkish Lira against the USD decline by 50% in 2012 (Cyprus Mail, 30 November 2017). This means that all the assets that Turkish Banks are holding in Turkish Lira will fall in value and thus causing banks to make losses.

One more issue to consider is the idea that Turkey's credit ratings have been falling and this imposes challenges on banks that are willing to borrow from the international market (Ion, 2017). Moreover, a falling credit rating also implies that investors will be pessimistic about investing in such as economy. Hence, banks will suffer through a decline in investment levels and high interest rates that are caused by a high risk profile

4.4 The role played by Basel 1 and Basel 2 in Turkey

Basel accords were some of the key instruments that played an important role towards improving the banking situation in Turkey. With the adoption of Basel 1 by Turkey being made in 1989, brought significant changes in internationalisation of norms and banking conditions (Diallo, 2014). Ever since the adoption of Basel 1, efforts to determine how much capital level should be considered to be adequate for banks to hold so as to safeguard against risks. The adoption of Basel 2 was done in the early 2004 just after the 2001 financial crisis and its main focus was on establishing new capital measures (Slovik&Cournede, 2011). Recommendations were made that Basel 2 provided a platform upon which evidence could be drawn about the effective ability of the Turkish banking sector to properly manage their capital resources (Barr & Miller, 2006).

The adoption of both Basel 1 and Basel 2 managed to instil banking discipline and banks were now able to properly manage their capital resources in line with the banking risk structures. This has been made possible by revaluating risk weighted assets in line with the market risks being experienced. Hence, the y can be concluded to have played an essential role towards the restructuring process of Turkey's banking sector.

4.5 Restructuring of the Banking Sector in Turkey

Much of the efforts to restructure the Turkish banking sector were first based on the need to control inflation (Diallo, 2014). This is because the rate of inflation was increasingly getting high and this was affecting banking operations. Thus, the first restructuring programme of the Turkish banking system was introduced in 2001 and it primarily targeted reducing the rate of inflation (Slovik&Cournede, 2011). This was followed by the establishment of the Banking Regulation and Supervision Authority (BRSA) whose mandate was to ensure that banks in Turkey have the necessary financial freedom. The restricting process of the Turkish banking system was mainly composed of the following elements;

4.5.1 Restructuring programmes

When looking at the need tom implement restructuring programmes, one can also consider that a lot of financial problems that were experienced by banks in Turkey were as a result of the 2001 financial crisis. The financial crisis resulted in a lot of uncertainties as some firms began to downsize while others began to cut down on their investments and banking services (Diallo, 2014). It is even considered that some were banks were declared solvent as a result of the 2001 financial crisis (Barr & Miller, 2006). With the problems of the financial crisis still continuing to be felt by banks, there was greater need to come up with restructuring programmes that will help to deal with these problems. This can be evidenced by the idea that in 2001, non-performing loans grew to 29.5% (BAT, 2017).

The structuring programmes can also be considered to have been effective because they managed to cover a wide number of issues and sectors. For instance, the introduction of the Istanbul Approach in 2002 made it easy to extend the restructuring programmes to other sectors of the economy such as the manufacturing sector (BRSA, 2018). This resulted in an increase in productivity, capacity utilisation, employment and also resulted in greater transparency.

4.5.2 Legal approaches

The major aim of restructuring Turkey's banking sector was introduce effective regulatory measures that will help prevent misconducts and corporate governance related problems (Ar&Kurtaya, 2013). This can be supported by the idea that the Turkish banking sector was relatively facing lack of transparency issues and hence the need to regulate banking activities (Kaya &Cinar, 2016). Banking regulation plays an important role to ensure that banks do not collapse and that depositors do not lose their funds which they have banked. The BRSA was thus given a mandate to regulate all banking activities and conduct monitoring and auditing activities to ensure conformity to prescribed banking standards and regulations. This has to a greater extent managed to improve transparency in the banking sector.

4.5.3 Private Banks capital support systems

Private Banks are one of the key pillars of the banking sector and hence more effort should be placed to ensure that there are financially stable. This can be supported by facts given by (Barr and Miller,2006) which contend that private banks are in a much greater position to introduce innovative products, services and process which help to improve banking competitiveness and financial development (Bikker& Hu, 2002). Private firms like banks are also a huge employer of both economic and human resources as compared to public banks. This ideas greatly show the reasons why the Turkish monetary authorities had to target private banks as well to be part of the restructuring process. Problems that were encountered by private banks included limits that were placed on the amounts of loans that banks could issue (Barr & Miller, 2006). This has had an effect of reducing potential revenue inflow collected from interest payments. This problem was made worse because a lot of loans that were issued by private banks in turkey were considered to be non-performing (Slovik&Cournede, 2011). This further limits the amount of potential revenue banks will be able to get. Thus, the need to restructure private banks provided a way of ensuring that private banks will be able to operate smoothly by providing them with capital supports.

The need to restructure private banks can prove to be costly and this is because restricting costs are in most cases so high and Central banks can sometimes face a lot of challenges in getting the required capital to meet restructuring costs. It is estimated that USD2.7 was spent towards meeting restructuring costs (Mohamad, 2016).

4.5.4 Restructuring of state owned banks

Any banking sector restructuring process can be considered to be incomplete when it does not include public sector banks (state-owned banks). Public banks often operate with a non-profit motive and little regards is placed at making more profits. A study by (Kayar and Cinar,2016) outlined that state-owned banks have bad structures that usually go bad with time and that there is greater need to introduce turnaround programmes targeted at improving their banking structure. With this idea in mind, it therefore shows that the restructuring process of state-owned banks in turkey had to a relatively extent, a positive impact on public banks' structure. Moreover, the need to restructure public banks is supported by the idea that public banks do not place much regards to improve banking efficiency and effectiveness (Diallo, 2014).

4.5.5 Implementation of the Savings Deposit Insurance Fund (SDIF)

Much of the problems that were being experienced by banks in Turkey were often too much that banks by themselves found it difficult to deal with them. Propositions were thus made that an SDIF be established to help banks that are experiencing problems (Ion,2071). The establishment of SDIF was highly welcomed as most regarded it as the best way to bring transparent and regulatory conduct which was lacking a lot among Turkish banks (Ar&Kurtaya, 2013; Civir, 2005). The is because after the establishment of SDIF, 2 development and investment banks had their licences revoked while 5 banks were placed under the control of SDIF(BRSA, 2018). In addition, the use of SDIF also managed to bring a bit of some financial stability as it began to adopt measures that promote capital growth among the Turkish banks and it is estimated that 40 billion Turkish Lira was injected into banks that were owned by the SDIF (BAT, 2009). This played an important role towards addressing risk and capital adequacy challenges.

CHAPTER FIVE

DATA ANALYSIS AND PRESENTATION

5.1 Introduction

This chapter offers a presentation of the obtained findings as well as deduced arguments and conclusions that can be made. It also looks at the steps which were taken to analyse the data and this is important for validity and reliability purposes. This chapter thus forms a base upon which conclusions and recommendations will be made.

5.2 Unit root test

When it comes to estimating the ARDL model, it is required that the variables be all stationary or non-stationary at levels but must be stationary at first difference (Im,Pesaran& Shin, 2003). There are however, cases where variables of mixed stationarity are used to estimate an ARDL model. Unit root tests were conducted at intercept and trend and the obtained ADF and PP results showed that the variables LBP, LAQ, LBC, LBL and LINF are non-stationary at levels with probability values of 0.4148, 0.2558, 0.2703 ,0.4111and 0.1932 respectively at critical value of -3.493692. However, the variable LEG is stationary at level with a probability value of 0.0000 and a critical value of -3.493692. All variables tend to become stationary when the ADF test is done at first difference.

5.2.1 Dickey- Fuller Unit Root Tests

Table 5.1: Dickey- Fuller Unit Root Tests

Variables	At Level Trend And Intercept			At First Difference Trend And Intercept	
	ADF Statistic	Test – Critical Value	P- Value	Test Critic Value	P-Value
LBP	-2.322987	1% -4.133838 5% -3.493692 10% -3.175693	0.4148	-4.140858 -3.496960 -3.177579	0.0000 *
LAQ	-2.662440	1% -4.133838 5% -3.493692 10% -3.175693	0.2558	-4.137279 -3.495295 -3.176618	0.0000 *
LBC	-2.627344	1% -4.133838 5% -3.493692 10% -3.175693	0.2703	-4.137279 -3.495295 -3.176618	0.0000 *
LBL	-2.330229	1% -4.133838 5% -3.493692 10% -3.175693	0.4111	-4.140858 -3.496960 -3.177579	0.0033 *
LEG	-7.491154	1% -4.133838 5% -3.493692 10% -3.175693	0.0000 *	-4.137279 -3.495295 -3.176618	0.0000 *
LINF	-2.830209	1% -4.133838 5% -3.493692 10% -3.175693	0.1932	-4.137279 -3.495295 -3.176618	0.0000 *

*,** and *** significant at 0.01, 0.05 and 0.10 levels*

5.2.2 Phillips -Perron Unit Root Tests

The PP results are similar to the ADF results obtained which show that LBP, LAQ, LBC, LBL and LINF are non-stationary at levels with probability values of 0.3550, 0.2836, 0.2173, 0.2262 and 0.3974 at a 5% critical value of -3.493692 while the variable LEG is stationary at level. All variables tend to become stationary when the ADF test is done at first difference at 5% and critical value of -3.495295. With these results, it is highly possible to estimate the ARDL model.

Table 5.2: Phillips-Perron Unit Root Tests

Variables	At level trend and intercept			At first difference trend and intercept	
	ADF Statistic	Test - Critical Value	P- Value	Test - Critical Value	P- Value
LBP	-2.441610	1% -4.133838	0.3550	-4.137279	0.0000 *
		5% -3.493692		-3.495295	
		10% -3.175693		-3.176618	
LAQ	-2.662440	1% -4.133838	0.2836	-4.137279	0.0000 *
		5% -3.493692		-3.495295	
		10% -3.175693		-3.176618	
LBC	-2.627344	1% -4.133838	0.2173	-4.137279	0.0000 *
		5% -3.493692		-3.495295	
		10% -3.175693		-3.176618	
LBL	-2.330229	1% -4.133838	0.3974	-4.137279	0 0000 *
		5% -3.493692		-3.495295	
		10% -3.175693		-3.176618	
LEG	-7.491154	1% -4.133838	0.0000 *	-4.137279	0.0001 *
		5% -3.493692		-3.495295	
		10% -3.175693		-3.176618	
LINF	-2.830209	1% -4.133838	0.2262	-4.137279	0.0001 *
		5% -3.493692		-3.495295	
		10% -3.175693		-3.176618	

*,** and *** significant at 0.01, 0.05 and 0.10 levels

5.3 Descriptive statistics

Descriptive statistics were computed in logarithm form and table 5.2, shows that the variable asset quality has a high elasticity as noted by a high mean score of 4.276. This shows that changes in banks' asset quality are more likely to cause large changes in the banks' profitability levels. A maximum elastic change of 4.702 in inflation rate was observed between the period 1961 and 2016 while the lowest elastic response stood at -0.912. The highest response rate signifies an increase in inflation while the negative minimum elastic response in inflation means that the inflation rate fell to its lowest during the period 1961 to 2016. High changes in the variables were noted using standard deviation and from table 4.3, it can be seen that the variable inflation had a high standard deviation of 1.283. This means that inflation was highly responsive to changes in economic events.

Table 5.3: Descriptive statistic in log form

Variables	Mean	Max	Min	Std.Dev	Observations
LBP	1.417598	2.516869	0.245654	0.655427	51
LBL	2.735125	4.592566	0.867577	1.118400	51
LBC	2.434160	3.837293	0.640920	0.862815	51
LAQ	4.276249	4.551005	3.788432	0.187487	51
LEG	2.182223	2.825830	-3.123589	0.855432	51
LINF	2.904739	4.702054	-0.912283	1.283165	51
DV	0.089286	1.000000	0.000000	0.287736	51

5.4 Short run ARDL bounds results

Firstly, an error correction of -0.906535 was obtained and observed to be significant at 1% and this implies that banks performance and capital competency are cointegrated together or with each other. Moreover, the results also implies that the speed of adjustment is so high that it takes the variables 90.65% to return back to equilibrium position.

Secondly, in the short run, it can be noted that there is a significant improvement in bank performance of 0.2017. This shows that the previous improvement in bank performance positively influences bank performance in the next period.

Asset quality can be seen to be showing signs of consistency in performance or contributions. This is because the banks' asset quality increased from 0.1328 to 1.0650 in the first period, to 1.1157 in the second period and later increased to1.2346 in the third period. What this implies is that the banks' have been able to effectively come up with proper asset management strategies that can improve the quality of the assets they are holding (Guru et al., 2002). This can be supported by ideas shown from the study by (Slovik and Cournede ,2011), which contends that banks which have good asset qualities have a tendency to have huge signs increasing performance because returns from such assets will be increasing.

Improvements in bank capital are having positive effects on profitability of 0.0734 which means that in the short run, it only takes a short time before the spent capital starts to generate positive returns. This can be said to be true based on the ideas given by (Zafar et al,2016), which asserts that bank capital has an ability to cause positive changes in profitability in the short run when such capital has been spent towards profitable investments either in assets or projects.

Table 5.4: Short run ARDL bounds results

Moder Selection Method :Akaike Info Criterion (Aic)
Dynamic Regressors(5legs , Automatic): LBL LBC LEG LINF DV
Selected Model :Ardl (2,0,0,4,5,2,0)

Variable	Coefficient	Standard Err.	T-Stat.	Prob.
D(LBP(-1))	0.201711	0.110417	1.826816	**0.0774***
D(LAQ)	0.132820	0.323902	0.410061	**0.6846**
D(LAQ(-1))	1.065040	0.384812	2.767692	**0.0094 ***
D(LAQ(-2))	1.115714	0.438951	2.541775	**0.0162 ****
D(LAQ(-3))	1.234575	0.476033	2.593464	**0.0144 ****
D(LBC)	0.073373	0.083459	0.879144	**0.3861**
D(LBL)	-0.064885	0.121038	-0.536073	**0.5957**
D(LEG)	0.028936	0.039162	0.738892	**0.4655**
D(LEG(-1))	0.112103	0.062424	1.795836	**0.0823***
D(LEG(-2))	0.065089	0.059905	1.086540	**0.2856**
D(LEG(-3))	-0.035733	0.051544	-0.693259	**0.4933**
D(LEG(-4))	-0.116846	0.037657	-3.102910	**0.0041 ***
D(LINF)	0.110318	0.086278	1.278642	**0.2105**
D(LINF(-1))	-0.227128	0.101420	-2.239472	**0.0324 ****
DV(1) 2001	2.33682	0.035468	0.575921	**0.7284**
DV(2) 2008	-1.768146	0.748923	1.154385	**0.0231****
CointEq(-1)	-0.906535	0.150416	-6.026843	**0.0000***
R^2	**0.69446**		**F-statistic**	**3.7110**
Adj. R^2	**0.5074**		**Durbin Watson**	**2.3059**

*,** and *** significant at **0.01, 0.05** and **0.10** levels

Thirdly, it can also be seen that in the short run, changes in bank liquidity have an effect of causing an insignificant decrease in bank profitability by 0.0649units at level. This agrees with findings made by (Lee and Hsieh,2013). This is possibly because improvements in bank liquidity are no longer allowing the bank to engage in income generating investments which will bring more returns in the future. What banks need to do is therefore to use the excess liquidity towards other banking activities that are capable of bringing more returns.

Fourthly, in the short run, improvements in economic growth can be noted to be having positive effects on bank profitability by 0.1121 in the first period but falls in the second to 0.0651 and to -0.0357 in the third period and -0.1103 in the fourth period. This can possibly mean that economic policies are no longer effective as they used to be and can be said to be limiting bank operations, and hence restricting bank profitability.

(Mathuva,2009), mentioned that this can be as a result of the idea that efforts and policies to promote economic growth are slowly losing their effectiveness towards positively influencing bank performance In this first period, inflation on the other hand, is causing bank performance significant fallen bank performance and this can either be as a result of a decrease in consumers' disposable incomes or spending and savings (Mathuva, 2009). The results also show that an increase in the rate of inflation will have a significant negative effect on bank performance by 0.2271units at lag 1.This implies that inflation negatively affects bank performance in the short run especially after the first period and in most cases the value of the banks' assets whose value if fixed can be considered being eroded by the inflationary pressure. The effects on a financial crisis on bank performance can still be observed to be positive as a probable increase in bank performance by 0.2809 was recorded. Such suggests the ability of banks to take advantage of opportunities that are posed by a financial crisis which results in an increase in bank performance. The 2008 can be said to be having significant adverse impact on bank performance with each 1 unit successive worsening of the financial situation leading to a decline in bank performance by 1.768 units as opposed to the 2001 financial crisis where the effects are insignificantly positive. This suggests that the 2008 financial crisis had significant negative effects on banks.

5.5 Long run ARDL bounds level equations

The results are showing that asset quality is negatively related with the development and investment's banks profitability by 1.2749 and this relationship is significant at 5%. This is the same as the study results which were obtained by (Athanasoglou et al.,2008) which shows that improvements in asset quality does not lead to improvements in bank profitability especially when too much capital is tied up in the assets. Having too much capital being tied up in assets reduces banks' liquidity position and this can affect the bank's capacity to invest in long term projects that can offer huge financial rewards.

The results also show that increases in bank capital will result in significant improvements in bank profitability at 10%. As a result, an increase in shareholder capital by 1 unit will result in an increase in bank profitability by 0.1823 units. This is the same with findings which were obtained (Zafar et al. ,2016). which contends that increases in bank capital will result in positive changes in bank profitability when such capital is used for productive reasons such as research and development and countering competitive pressure. The results also confirm findings made by (Lee and Hsieh ,2013) and (Sufian and Habibullah ,2009) which showed that improvements in bank liquidity will have a negative effect on bank performance. This is because a 1 unit improvement in bank liquidity can be noted to be causing bank profitability to decrease insignificantly by 0.0221units. Possible reasons can be due to the improvement in bank's capacity to meet short term obligations is reducing the bank's ability to invest in productive fixed or illiquid assets and projects that can bring in more revenue.

Table 5.5:Long run ARDL bounds level equations
Moder Selection Method :Akaike Info Criterion (Aic)
Dynamic Regressors(5legs , Automatic): LBL LBC LEG LINF DV
Selected Model :Ardl(2,0,0,4,5,2,0)

Long run ARDL bounds level equations				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LAQ	-1.204534	0.508469	-2.368943	**0.0243****
LBC	0.161421	0.088757	1.818675	**0.0786*****
LBL	-0.022124	0.083013	-0.266512	**0.7916**
LEG	-0.141048	0.173354	-0.813645	**0.4221**
LINF	0.527971	0.060781	8.686515	**0.0000***
DV(1) 2001	-0.234568	0.441032	1.876945	**0.0223****
DV(2) 2008	-1.661022	0.667481	0.897548	**0.0653*****
C	4.941091	2.322771	2.127240	**0.0415****
*„** and *** significant at **0.01, 0.05** and **0.10** levels*				

In the long run improvements in economic growth by 1 unit will result in a significant fall in bank performance by 0.1410 units. Such results are in confirmation of conclusions made by (Mathuva,2009) which contends that efforts to promote economic growth can often result in a fall in bank performance when policies made by the government are restricting banking operations. Hence, bank operations will be restricted causing profit margins to fall in the long run. An increase in inflation on the other hand can be seen to be causing an increase in bank performance by 0.5280 units.

This is because there is a rise in disposable incomes which is causing people to borrow more money from banks and hence banks will be charging high interest rates on loans as demand for loans will be rising. Inflation has positive effects on bank performance when banks make more money out of loans to the public and investments made in other firms (Mathuva, 2009; Sufian&Habibullah, 2009). The effects of the financial crisis that took place in Turkey can be said to be triggering positive changes in bank performance of 0.2721 units. However, it can be noted that both the 2001 and 2008 financial crisis had negative effects on bank performance. This can be evidenced by a decline in bank performance by 0.234568 and 1.661022 in 2001 and 2008 respectively. This provides strong evidence that a financial crisis poses negative effects on bank performance. This can be as a result of precautionary measures to guard against such effects. This includes risk management strategies that will see banks reorganising their capital and liquidity levels in a manner that not only guards against such risks but also spearhead banks into long run profitable positions.

5.6 Bounds test

The study also attempted to determine if the variables are cointegrated in the long run and this was made possible by using the bounds test. The bounds test asserts that long run cointegration will exist when the F-statistic is greater than lower and upper bounds values. Using the given results presented in table 5.5, it can be noted that the F-statistic value of 4.637273 is greater than both lower and upper bounds values and hence we can conclude that capital competence and bank profitability are cointegrated in the long run.

Table 5.6: Bounds test

ARDL Bounds Test		
Test Statistic	**Value**	**K**
F-statistic	4.637273	6
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	1.99	2.94
5%	2.27	3.28
.5%	2.55	3.61
1%	2.88	3.99

5.6 Model diagnostic tests

Serial correlation tests were conducted using the Breusch-Godfrey Serial Correlation LM test. Since the obtained p-value is greater than 5%, we can thus accept the null hypothesis that there is no serial correlation at 5%.

Table 5.7 Breusch Godfrey Serial Correlation LM tests and Heteroscedasticity test

	Serial Correlation LM test	Heteroscedasticity Tests		Normality
	Breusch-Godfrey test	Breusch-Pagan-Godfrey	Glejser TEST	Jarque-bera
F-statistic	1.496054	1.691431	1.283417	1.6983
Obs*R-squared	4.769849	25.95929	22.456432	
Prob	0.0921	0.7943	0.6723	0.4278

Meanwhile, heteroscedasticity tests were conducted using the Breusch-Pagan-Godfrey test and the Glejser test. Since both tests have p-values that are above 5%, conclusions can be made that there is no heteroscedasticity at 5%. A Jarque-bera of 1.6983 with a probability value of 0.4278 was obtained which signifies that the data is perfectly normal.

5.7 Ramsey Reset test

Ramsey Reset test was also used to determine whether the estimated model's variables will help in explaining variations in bank profitability. In other words, Ramsey test seeks to check whether the model is mis-specified or not. From the results given in table 4.9, it can be seen that the obtained p-value is 05711. Hence, we can accept the null hypothesis that the model is not mis-specified at 0.05 significance level.

Table 5.8: Ramsey reset test

Omitted Variables: Squares of fitted values			
	Value	**df**	**Probability**
t-statistic	0.572662	30	0.5711
F-statistic	0.327942	(1, 30)	0.5711

CHAPTER SIX

DISCUSSION OF FINDINGS AND CONCLUSIONS, RECOMMENDATIONS AND SUGGETIONS FOR FUTURE STUDIES

6.1 Discussion of findings and conclusions

From the obtained results, it has been noted that improvements in asset quality will have negative effects on bank performance. Such is also similar to what was established by (Lee and Hsieh,2013) which assert that improvements in asset quality do not always lead to improvement in bank performance. This implies that a lot of capital or funds are being spent on assets that have got a low income capacity and this reduces potential revenue inflows that the banks will be capable of making. An improvement in asset quality does not necessarily mean that it will have a positive effect on bank performance. This is also because of the idea that the opportunity cost of making such improvements is greater than the potential benefits those banks will get. This resultantly causes a reduction in bank performance as costs increase and revenue falls.

From the obtained results of this study, it has been noted that improvements in the banks' capital position will result in significant improvements in bank profitability. These results support findings made by (Siam and Kanji,2016) which contends that there is a positive relationship between bank performance and bank capital. This is because banks will be having more capital funds to deal with potential risks that threaten their operations and survival prospects. This also suggests that high capital funds provide a means which banks can use to counter competitive pressure which results in high chances of secured better revenue inflows and market share. In addition, increases in capital can also offer banks the means to introduce innovative products, processes and services that are more effective and efficient and can result in a major reduction in banking costs. Thus banks will make profits as costs decline and service and product provision continue to rise. Also efforts by banks to expand and develop are also financed out of capital funds. Hence, expectations will be high that profits will continue to increase as banks successfully expand and develop.

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Improvements in bank liquidity have also been noted to be causing negative effects on bank performance as noted by (Lee and Hsieh,2013). What this implies is that banks do not have easy and swift liquidity which they can easily converted into means of payment. Such payments can in most cases be targeted at offering more high income earning assets such as loans and making additional profitable investments. Thus, in the long run, banks will make less profits possibly losses because they have a limited number of high income earning assets and income generating investment and hence a decline in revenue inflows.

The 2008 financial crisis can be noted to be having negative effects on bank performance in both short run and long run periods. This signifies that financial crisis have detrimental effects on bank performance and hence banks must put measures to guard against the effects of a financial crisis.

Increases in economic growth have been noted to be causing a significant fall in bank performance and this is similar with what (Lee and Hsieh,2013). Possible reasons can be due to the idea that economic policies being instituted by the government to promote economic growth are hampering banking operations. Governments can often come up with policies such as tax policies which may require that high tax rates be levied on high levels of profit levels. High profit levels have a tendency to dissuade banks from engaging in high income earning activities and this can possibly diminish revenue inflows. Taxation policies can also be imposed on capital funding and this has had adverse effects on bank performance especially when the required capital is to fund profitable projects that have a huge capacity to bring in more revenue. As a result, back performance will decline as banks cut back on probable and prosperous projects, investments and spending on high income generating assets. In most cases, regulations made by the government can impose limits on service provision especially when the governments imposes withdrawal limits and other service provision An increase in inflation on the other hand can be seen to be causing a decrease in bank performance.

This concurs with findings made by (Lee and Hsieh ,2013) which suggest that banks can sometimes raise their service fees in line with inflation rate s or sometimes way above and make profits out of the inflationary situation. This is possibly because there is a fall in disposable incomes which is triggering less borrowing from banks and savings by consumers. Hence, banks will make fewer profits out of interest rates charged on loans. A decreases in the demand for loans also triggers a fall in interest rates and thus profits will decrease as a result of a decrease in interest rate base and low interest rates levied on borrowed funds. Increase inflation can also cause bank performance to decrease when consumers are saving less of the excess incomes with banks. This reduces the banks' ability to access more funds which they can use to issue loans.

Based on these ideas, conclusions can therefore be made that capital competence has a positive impact on bank profitability. Conclusions can also be made that improvements in banks' asset quality results in a decline in bank profitability. The same can be said for economic growth whose impacts can be considered to be restricting bank operations. In addition, it can also be concluded that an improvement in bank liquidity improves the bank's ability to invest and spend on profitable projects and assets which can generate high income inflows. Lastly, conclusions can be made that an increase in inflation causes more people to borrow from banks and thus allowing banks to make more profits by charging high interest rates.

6.2 Recommendations

Based on the obtained results, recommendations will therefore be made in respect of bank management and policy makers as follows;

6.2.1 Recommendations to bank managers

- Bank managers are encouraged to ensure that improvements in asset quality does not tie up capital funds in assets which ends up reducing bank liquidity.

- Efforts to improve asset quality must also be made towards those assets that have a greater capacity to improve bank performance through an increase in future returns.

- There is a greater need for banks to increase their capital bases to take advantage of the profitable market operations by using cheaper sources of capital.

- Banks need to improve on their working capital management to ensure that funds are spent on high income generating assets and activities.

6.2.2 Recommendations to policy makers

- Policy makers be it the government of Turkey through its Central Bank, are advised to come up with economic policies that do not hinder bank operations. Such policies will include a reduction in tax rates imposed on banks.

- There should be an effective combined use of both monetary and fiscal policies by the Central Bank to combat inflation and promote more saving by consumers.

- There is a need to ensure that banking regulations are conducive enough for banks to operate without encountering a lot of challenges.

6.3 Suggestions for future studies

The study is combined analysis of all banks in turkey but because it has been noted that changes in bank performance that are caused by differences in capital competence varies according to regions and economic development. Suggestions can thus be made that future studies must compare banks in different regions, economies and or by ownership structure.

REFERENCES

Abor, J. (2005). The effect of capital structure on profitability: an empirical analysis of listed firms in Ghana. The journal of risk finance, 6(5), 438-445.

Amidu, M. (2007). Determinants of capital structure of banks in Ghana: an empirical approach. Baltic Journal of Management, 2(1), 67-79.

Ar, I. M., & Kurtaran, A. (2013). Evaluating the relative efficiency of commercial banks in Turkey: An integrated AHP/DEA approach. International Business Research, 6(4), 129.

Arbabiyan, A. A., & Safari, M. (2009). The effects of capital structure and profitability in the list

Athanasoglou, P. P., Brissimis, S. N., & Delis, M. D. (2008). Bank-specific, industry-specific and macroeconomic determinants of bank profitability. Journal of international financial Markets, Institutions and Money, 18(2), 121-136.

Awunyo-Vitor, D., & Badu, J. (2012). Capital structure and performance of listed banks in Ghana. Global Journal of Human-Social Science Research, 12(5).

Ayaydin, H., &Karakaya, A. (2014). The effect of bank capital on profitability and risk in Turkish banking. International Journal of Business and Social Science, 5(1).

Berger, A. N., & Di Patti, E. B. (2006). Capital structure and firm performance: A new approach to testing agency theory and an application to the banking industry. Journal of Banking & Finance, 30(4), 1065-1102.

Barr, M. S., & Miller, G. P. (2006). Global administrative law: the view from Basel. European Journal of International Law, 17(1), 15-46.

Bikker, J. A., & Hu, H. (2002). Cyclical patterns in profits, provisioning and lending of banks and procyclicality of the new Basel capital requirements. Banca NazionaledelLavoro Quarterly Review, 55(221), 143.

Cebenoyann, A. S., & Strahan, P. E. (2004). Risk management, capital structure and lending at banks. Journal of Banking & Finance, 28(1), 19-43.

Chakraborty, I. (2010). Capital structure in an emerging stock market: The case of India. Research in international business and finance, 24(3), 295-314.

Chaudhry, M., Chatrath, A., & Kamath, R. (1995). Determinants of bank profitability. American Journa, 10(1), 41-46.

Civcir, I. (2005). Dollarization and its long-run determinants in Turkey. In Money and Finance in the Middle East: Missed Oportunities or Future Prospects? (pp. 201-232). Emerald Group Publishing Limited.

Cyprus Mail. Turkish banks treading dangerously, 30 November 2017. . Accessed from http://cyprus-mail.com/2017/11/30/turkish-banks-treading-dangerously/ on 3 March 2018.

De Mesquita, J. M. C., & Lara, J. E. (2003). Capital structure and profitability: the Brazilian case.

Demirgüç-Kunt, A., & Huizinga, H. (1999). Determinants of commercial bank interest margins and profitability: some international evidence. The World Bank Economic Review, 13(2), 379-408.

Diallo, F. D. (2014). Banking Supervision and Regulation in Turkey: Basel 1, Basel 2 and Basel 3 (Doctoral dissertation, Eastern Mediterranean University (EMU)-DoğuAkdenizÜniversitesi (DAÜ)).

El-Sayed Ebaid, I. (2009). The impact of capital-structure choice on firm performance: empirical evidence from Egypt. The Journal of Risk Finance, 10(5), 477-487.

Froot, K. A., & Stein, J. C. (1998). Risk management, capital budgeting, and capital structure policy for financial institutions: an integrated approach. Journal of financial economics, 47(1), 55-82.

Gatsi, J. G., & Akoto, R. K. (2010). Capital structure and profitability in Ghanaian banks.

Gaud, P., Jani, E., Hoesli, M., & Bender, A. (2005). The capital structure of Swiss companies: an empirical analysis using dynamic panel data. European Financial Management, 11(1), 51-69.

Gill, A., Biger, N., &Mathur, N. (2011). The effect of capital structure on profitability: Evidence from the United States. International Journal of Management, 28(4), 3.

Greene, P., Gatewood, E., & Hart, M. (2003). Women entrepreneurs who break through to equity financing: the influence of human, social and financial capital.Venture Capital: an international journal of entrepreneurial finance, 5(1), 1-28

Gropp, R., &Heider, F. (2010). The determinants of bank capital structure. Review of Finance, 14(4), 587-622.

Gujarati, D.N. 2003. Basic Econometrics. New York: McGraw Hill Book Co. Fudenberg, D. and J. Tirole. 1992. Game Theory. Cambridge, MA: MIT Press.

Guru, B. K., Staunton, J., &Balashanmugam, B. (2002). Determinants of commercial bank profitability in Malaysia. Journal of Money, Credit, and Banking, 17, 69-82.

H ossain, M. S., Hasan, M., & Safiuddin, M. (2015). Adoption of international financial reporting standards in Bangladesh: Benefits and challenges.

Huizinga, H. (2000). Financial structure and bank profitability (Vol. 2430). World Bank Publications.

Hurriyet Daily News. Turkish banks face serious profit problems if demand stays weak: Association.   October   28   2016.   Accessed

fromhttp://www.hurriyetdailynews.com/turkish-banks-face-serious-profit-problems-if-demand-stays-weak-association--105469 on 3 March 2018.

Hutchison, D. E., & Cox, R. A. (2007). The causal relationship between bank capital and profitability. Annals of Financial Economics, 3(01), 0750002.

Ion, B. (2017). The European Union: Challenges and Perspectives. Ovidius University Annals, Economic Sciences Series, 17(2), 73-78.

Jalil, A. (2014). Energy–growth conundrum in energy exporting and importing countries: Evidence from heterogeneous panel methods robust to cross-sectional dependence. Energy Economics, 44, 314-324.

Kaya, T., &Cinar, Y. (2016). Analyzing Internal Efficiency Dynamics Of Turkish Banks: Activity Based Multi-Objective Dynamic DEA Model And Its Application. Journal of Applied Business Research, 32(3), 729.

Lee, C. C., & Hsieh, M. F. (2013). The impact of bank capital on profitability and risk in Asian banking. Journal of international money and finance, 32, 251-281.

Memon, F., Bhutto, N. A., & Abbas, G. (2012). Capital structure and firm performance: A case of textile sector of Pakistan.Asian Journal of Business and Management Sciences, 1(9), 9-15.

Maina, L., &Ishmail, M. (2014). Capital structure and financial performance in Kenya: Evidence from firms listed at the Nairobi Securities Exchange. International Journal of Social Sciences and Entrepreneurship, 1(11), 209-223.

Manawaduge, A., Zoysa, A. D., Chowdhury, K., & Chandarakumara, A. (2011). Capital structure and firm performance in emerging economies: An empirical analysis of Sri Lankan firms. Corporate Ownership & Control, 8(4), 253-263

Mathuva, D. M. (2009). Capital adequacy, cost income ratio and the performance of commercial banks: The Kenyan Scenario. The International journal of applied economics and Finance, 3(2), 35-47.

Mazur, K. (2007). The determinants of capital structure choice: evidence from Polish companies. International Advances in Economic Research, 13(4), 495-514

Mohamad, A. (2016). Determinants of Banks Liquidity: Empirical Evidence on Turkish Banks (Master's thesis, Eastern Mediterranean University (EMU)-DoğuAkdenizÜniversitesi (DAÜ)).

Molyneux, P., & Thornton, J. (1992). Determinants of European bank profitability: A note. Journal of banking & Finance, 16(6), 1173-1178.

Muritala, T. A. (2012). Empirical Analysis on Impact of External Debt on Economic Growth in Nigeria. Acta Universitatis Danubius. Œconomica, 8(6).

Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. Journal of financial economics, 13(2), 187-221

Naceur, S. B. (2003). The determinants of the Tunisian banking industry profitability: panel evidence. UniversiteLibre de Tunis working papers.

Naceur, S. B., &Kandil, M. (2009). The impact of capital requirements on banks' cost of intermediation and performance: The case of Egypt. Journal of Economics and Business, 61(1), 70-89.

Niko, M. A., & Joyami, E. N. (2015). Investigating the Relationship between Cultural Capital and between-Person Trusts (Case Study: Government University of ILAM). International Journal of Academic Research in Business and Social Sciences, 5(6), 229-243

Osborne, M., Fuertes, A., & Milne, A. L. I. S. T. A. I. R. (2009). Capital and profitability in banking: Evidence from US banks. Working Paper Series.

Pesaran, M., & Shin, Y. (2003). A long run structural macroeconometric model of the UK. The Economic Journal, 113(487), 412-455

Pratheepkanth, P. (2011). Capital structure and financial performance: evidence from selected business companies in Colombo stock exchange Sri Lanka. Researchers World, 2(2), 171.

Rao, N. V., Al-Yahyaee, K. H. M., & Syed, L. A. (2007). Capital structure and financial performance: evidence from Oman. Indian Journal of Economics and Business, 6(1)

Ramadan, Z. S., & Ramadan, I. Z. (2015). Capital structure and firm's performance of Jordanian manufacturing sector.*International Journal of Economics and Finance*, *7*(6), 279.

Rime, B. (2001). Capital requirements and bank behaviour: Empirical evidence for Switzerland. Journal of Banking & Finance, 25(4), 789-805.

Salim, M., & Yadav, R. (2012). Capital structure and firm performance: Evidence from Malaysian listed companies.Procedia-Social and Behavioral Sciences, 65, 156-166

Salteh, H. M., Ghanavati, E., Khanqah, V. T., & Khosroshahi, M. A. (2012). Capital structure and firm performance; Evidence from Tehran Stock Exchange. International Proceedings of Economics Development & Research, 43(1), 225-230

Saunders, A., & Cornett, M. M. (2003). Financial institutions management: A risk management approach. Irwin/McGraw-Hill.

Shubita, M. F., &Alsawalhah, J. M. (2012). The relationship between capital structure and profitability. International Journal of Business and Social Science, 3(16).

Shun, L. J., & Chen, S. Y. (2011). The influence of profitability on firm value with capital structure as the mediator and firm size and industry as moderators. Investment Management and Financial Innovations, 8(3), 121-129.

Siam, A. Z., &Khanji, I. M. (2015). The Effect of Capital Competence on the Turkeyian Banks Profitability. International Journal of Economics and Finance, 7(6), 243.

Slovik, P., &Cournède, B. (2011). Macroeconomic impact of Basel III.

Soumadi, M. M., & Hayajneh, O. S. (2012). Capital structure and corporate performance empirical study on the public Jordanian shareholdings firms listed in the Amman stock market. European Scientific Journal, ESJ, 8(22)

Sufian, F., &Habibullah, M. S. (2009). Bank specific and macroeconomic determinants of bank profitability: Empirical evidence from the China banking sector. Frontiers of Economics in China, 4(2), 274-291.

Umar, M., Tanveer, Z., Aslam, S., & Sajid, M. (2012). Impact of capital structure on firms' financial performance: Evidence from Pakistan.

Teani, K. (2013). Capital structure effects on Banking performance a case study of Turkey. International Journal of Economics, Finance and Management. http://dx.doi.org/10.11648/j.ijefm.20130105.13.

Tewara, S. M. (n.d). The Analysis of Profitability of Kenyas Top Six Commercial Banks: Internal Factor Analysis

Velnampy, T., &Niresh, J. A. (2012). The relationship between capital structure and profitability. Global Journal of Management and Business Research, 12(13).

Vong, P. I., & Chan, H. S. (2009). Determinants of bank profitability in Macao. Macau Monetary Research Bulletin, 12(6), 93-113.

Watson, D., & Head, A. (2010). Corporate finance: principles and practice. Pearson Education.

Zafar, S., Nazam, M., Hanif, A., Almas, I., & Sana, N. (2016). Impact of Working Capital Management on Firm" s Profitability: A Case from Food Sector of Pakistan. European Journal of Accounting, Auditing and Finance Research, 4(10), 48-58.

https://www.tbb.org.tr/en/Content/Upload/Dokuman/139/banks_in_turkey_2016.pdf

https://www.tbb.org.tr/en/home

https://www.bddk.org.tr/websitesi/English.aspx

http://www.hurriyetdailynews.com/turkey-marks-93th-anniversary-of-republic-day-105496

LIST OF APPENDICES

Appendix I: Descriptive statistics

Mean	1.417598	2.735125	2.434160	4.276249	2.182223	2.904739	0.089286
Median	1.380990	2.991366	2.212544	4.244659	2.364755	2.904617	0.000000
Maximum	2.516869	4.592566	3.837293	4.551005	2.825830	4.702054	1.000000
Minimum	0.245654	0.867577	0.640920	3.788432	-3.123589	-0.912283	0.000000
Std. Dev.	0.655427	1.118400	0.862815	0.187487	0.855432	1.283165	0.287736
Skewness	-0.011491	-0.070638	0.012901	0.166651	-4.595432	-0.784779	2.880632
Kurtosis	1.814968	1.771806	2.222786	2.533555	27.94169	3.498123	9.298039
Jarque-Bera	3.277935	3.566309	1.411031	0.766877	1648.639	6.327153	170.0007
Probability	0.194180	0.168107	0.493854	0.681514	0.000000	0.042274	0.000000
Sum	79.38549	153.1670	136.3129	239.4699	122.2045	162.6654	5.000000
Sum Sq. Dev.	23.62713	68.79501	40.94474	1.933333	40.24705	90.55815	4.553571
Observations	56	56	56	56	56	56	56

Appendix II: ARDL cointegrating and long run form

ARDL Cointegrating And Long Run Form
Dependent Variable: LBP
Selected Model: ARDL(2, 0, 0, 4, 5, 2, 0)
Date: 03/23/18   Time: 16:33
Sample: 1961 2016
Included observations: 51

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LBP(-1))	0.201711	0.110417	1.826816	0.0774
D(LBL)	-0.064885	0.121038	-0.536073	0.5957
D(LBC)	0.073373	0.083459	0.879144	0.3861
D(LAQ)	0.132820	0.323902	0.410061	0.6846
D(LAQ(-1))	1.065040	0.384812	2.767692	0.0094
D(LAQ(-2))	1.115714	0.438951	2.541775	0.0162
D(LAQ(-3))	1.234575	0.476033	2.593464	0.0144
D(LEG)	0.028936	0.039162	0.738892	0.4655
D(LEG(-1))	0.112103	0.062424	1.795836	0.0823
D(LEG(-2))	0.065089	0.059905	1.086540	0.2856
D(LEG(-3))	-0.035733	0.051544	-0.693259	0.4933
D(LEG(-4))	-0.116846	0.037657	-3.102910	0.0041
D(LINF)	0.110318	0.086278	1.278642	0.2105
D(LINF(-1))	-0.227128	0.101420	-2.239472	0.0324
D(DV-2008)	-1.768146	0.748923	1.154385	0.0231**
CointEq(-1)	-0.906535	0.150416	-6.026843	0.0000

Cointeq = LBP - (-0.0221*LBL + 0.1614*LBC -1.2045*LAQ -0.1410*LEG +
0.5280*LINF + 0.2721*DV + 4.9411)

Appendix III: Breusch--Pagan-Godfrey

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	1.691431	Prob. F(19,31)	0.0942
Obs*R-squared	25.95929	Prob. Chi-Square(19)	0.1313
Scaled explained SS	13.81686	Prob. Chi-Square(19)	0.7943

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 03/26/18   Time: 09:01
Sample: 1966 2016
Included observations: 51

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.482738	0.534196	-0.903672	0.3731
LBP(-1)	-0.119459	0.034614	-3.451214	0.0016
LBP(-2)	0.043507	0.029930	1.453630	0.1561
LAQ	-0.039352	0.104157	-0.377815	0.7081
LAQ(-1)	0.059920	0.125140	0.478828	0.6354
LAQ(-2)	0.042572	0.164180	0.259298	0.7971
LAQ(-3)	0.039615	0.165176	0.239838	0.8120
LAQ(-4)	-0.047059	0.125118	-0.376120	0.7094
LBC	0.038735	0.018179	2.130767	0.0411
LBL	0.012398	0.017502	0.708409	0.4840
LEG	0.014249	0.012346	1.154135	0.2573
LEG(-1)	0.009069	0.011508	0.788123	0.4366
LEG(-2)	0.012646	0.011460	1.103515	0.2783
LEG(-3)	0.011070	0.011931	0.927903	0.3606
LEG(-4)	0.006517	0.012600	0.517252	0.6087
LEG(-5)	0.002827	0.012284	0.230180	0.8195
LINF	0.007989	0.026913	0.296850	0.7686
LINF(-1)	0.012066	0.026611	0.453416	0.6534
LINF(-2)	0.024593	0.027092	0.907787	0.3710
DV	0.061071	0.038150	1.600833	0.1196

R-squared	0.509006	Mean dependent var	0.040447
Adjusted R-squared	0.208074	S.D. dependent var	0.069337
S.E. of regression	0.061703	Akaike info criterion	-2.446485
Sum squared resid	0.118026	Schwarz criterion	-1.688906
Log likelihood	82.38536	Hannan-Quinn criter.	-2.156992
F-statistic	1.691431	Durbin-Watson stat	1.851398
Prob(F-statistic)	0.094183		

Appendix IV: Glejser Heteroscedasticity test

Heteroskedasticity Test: Glejser
Null hypothesis: Homoskedasticity

F-statistic	1.283417	Prob. F(19,31)	0.2618
Obs*R-squared	22.45432	Prob. Chi-Square(19)	0.2622
Scaled explained SS	15.77447	Prob. Chi-Square(19)	0.6723

Test Equation:
Dependent Variable: ARESID
Method: Least Squares
Date: 03/26/18   Time: 09:03
Sample: 1966 2016
Included observations: 51

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.385507	1.082769	-1.279597	0.2102
LBP(-1)	-0.149987	0.070159	-2.137823	0.0405
LBP(-2)	0.071871	0.060665	1.184714	0.2451
LAQ	-0.013544	0.211117	-0.064155	0.9493
LAQ(-1)	0.110431	0.253647	0.435370	0.6663
LAQ(-2)	0.067083	0.332779	0.201586	0.8416
LAQ(-3)	0.075942	0.334797	0.226829	0.8220
LAQ(-4)	-0.021973	0.253603	-0.086643	0.9315
LBC	0.054336	0.036847	1.474633	0.1504
LBL	0.023212	0.035474	0.654325	0.5177
LEG	0.031168	0.025024	1.245534	0.2223
LEG(-1)	0.013280	0.023325	0.569372	0.5732
LEG(-2)	0.038017	0.023229	1.636645	0.1118
LEG(-3)	0.038019	0.024182	1.572177	0.1261
LEG(-4)	0.017096	0.025539	0.669409	0.5082
LEG(-5)	-0.003146	0.024898	-0.126352	0.9003
LINF	0.019814	0.054550	0.363229	0.7189
LINF(-1)	0.011912	0.053939	0.220846	0.8267
LINF(-2)	0.038809	0.054912	0.706755	0.4850
DV	0.117589	0.077326	1.520694	0.1385

R-squared	0.440281	Mean dependent var	0.153167
Adjusted R-squared	0.097227	S.D. dependent var	0.131630
S.E. of regression	0.125067	Akaike info criterion	-1.033455
Sum squared resid	0.484896	Schwarz criterion	-0.275877
Log likelihood	46.35311	Hannan-Quinn criter.	-0.743962
F-statistic	1.283417	Durbin-Watson stat	1.943294
Prob(F-statistic)	0.261794		

Appendix V: Breusch-Godfrey Serial Correlation LM test

Breusch-Godfrey Serial Correlation LM Test:
Null hypothesis: No serial correlation at up to 2 lags

F-statistic	1.496054	Prob. F(2,29)	0.2408
Obs*R-squared	4.769849	Prob. Chi-Square(2)	0.0921

Test Equation:
Dependent Variable: RESID
Method: ARDL
Date: 03/26/18   Time: 09:04
Sample: 1966 2016
Included observations: 51
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LBP(-1)	0.303445	0.236547	1.282810	0.2097
LBP(-2)	-0.116384	0.159480	-0.729770	0.4714
LAQ	-0.009983	0.428702	-0.023287	0.9816
LAQ(-1)	-0.062764	0.527817	-0.118913	0.9062
LAQ(-2)	-0.049095	0.681913	-0.071996	0.9431
LAQ(-3)	-0.019206	0.684597	-0.028054	0.9778
LAQ(-4)	0.344706	0.588031	0.586204	0.5623
LBC	0.002202	0.077584	0.028387	0.9775
LBL	-0.001742	0.073062	-0.023848	0.9811
LEG	0.021774	0.052345	0.415975	0.6805
LEG(-1)	0.021327	0.050101	0.425688	0.6735
LEG(-2)	0.019590	0.049164	0.398460	0.6932
LEG(-3)	0.027153	0.054430	0.498864	0.6216
LEG(-4)	0.032341	0.060544	0.534169	0.5973
LEG(-5)	0.027441	0.056820	0.482952	0.6328
LINF	0.000997	0.115760	0.008610	0.9932
LINF(-1)	-0.029973	0.111325	-0.269244	0.7896
LINF(-2)	-0.061428	0.120308	-0.510593	0.6135
DV	-0.027360	0.159435	-0.171604	0.8649
C	-1.190228	2.363793	-0.503524	0.6184
RESID(-1)	-0.483582	0.307661	-1.571802	0.1268
RESID(-2)	0.060655	0.253787	0.238999	0.8128

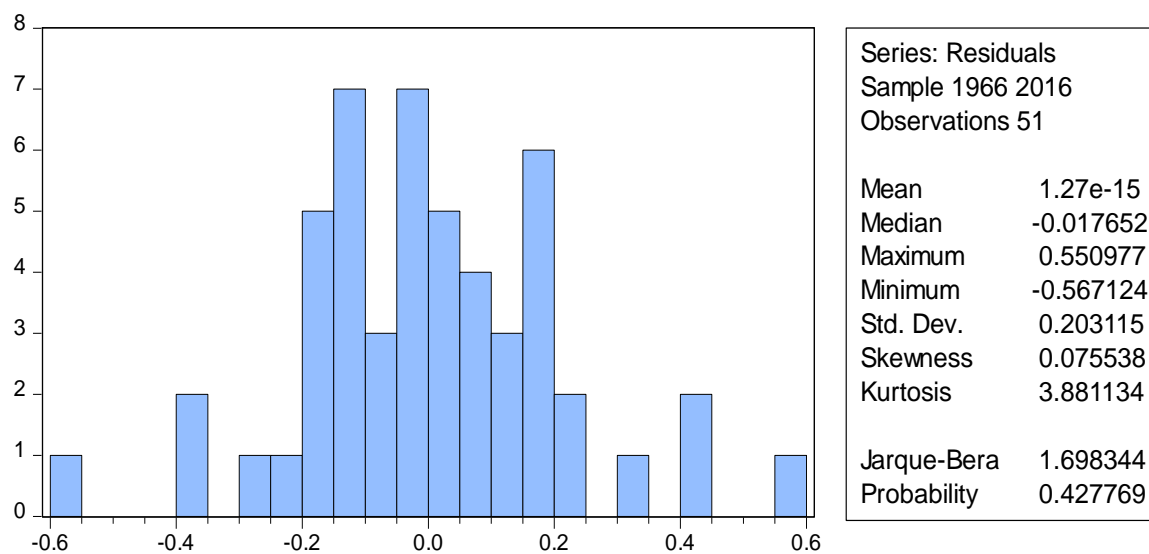|			
R-squared	0.093526	Mean dependent var	-8.98E-17
Adjusted R-squared	-0.562885	S.D. dependent var	0.203115
S.E. of regression	0.253925	Akaike info criterion	0.394660
Sum squared resid	1.869861	Schwarz criterion	1.227997
Log likelihood	11.93616	Hannan-Quinn criter.	0.713103
F-statistic	0.142481	Durbin-Watson stat	1.972966
Prob(F-statistic)	0.999989		

Appendix VI: Bounds test

ARDL Bounds Test
Date: 03/23/18   Time: 16:32
Sample: 1966 2016
Included observations: 51
Null Hypothesis: No long-run relationships exist

Test Statistic	Value	k
F-statistic	4.637273	6

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	1.99	2.94
5%	2.27	3.28
2.5%	2.55	3.61
1%	2.88	3.99

Appendix VII : Normality test

Series: Residuals	
Sample 1966 2016	
Observations 51	
Mean	1.27e-15
Median	-0.017652
Maximum	0.550977
Minimum	-0.567124
Std. Dev.	0.203115
Skewness	0.075538
Kurtosis	3.881134
Jarque-Bera	1.698344
Probability	0.427769

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ETHICS COMMITEE APPROVAL

YAKIN DOĞU ÜNİVERSİTESİ

BİLİMSEL ARAŞTIRMALAR ETİK KURULU

01.06.2018

Dear Bayar Ismael

Your project "**The Effect of Capital Competence on the Profitability of Development and Investment Banks in Turkey**" has been evaluated. Since only secondary data will be used the project it does not need to go through the ethics committee. You can start your research on the condition that you will use only secondary data.

Assoc. Prof. Dr. Direnç Kanol

Rapporteur of the Scientific Research Ethics Committee

Note: If you need to provide an official letter to an institution with the signature of the Head of NEU Scientific Research Ethics Committee, please apply to the secretariat of the ethics committee by showing this document.