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*Full Length Research Paper*

# Financial liberalization and banking sector performance in Ghana

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**The study examined the impact of financial liberalization on the banking industry in Ghana. The paper reviews what has happened in the pre and post liberalization periods in the banking industry. Using recent data from the Ghana Banking Survey (2008) between 2003 and 2007, the study found that liberalization had many effects on the banking industry in Ghana, including: influx of new banks, increased intensity of competition, reduced profit margins, and increased access to loans. The study also found that the foreign banks have outperformed the local banks over the study period.**

**Key words:** Financial liberalization, competition, market share, herfindahl- hirschman index, Ghana.

## INTRODUCTION

In the last three decades, many emerging and developing countries' governments have moved away from a system of restrictive monetary and financial control to a more liberalized financial sector (Marius and Bogdan, 2012). The restrictive policies were expected to contribute to the industrialization of the economy and even more importantly to the stability of the banking sector (Beck, 2008). However, financial repression had costs on the banking system's competitiveness and efficiency. As noted by Stiglitz (1998), the era of unfettered government intervention in the economy led in many instances to economic inefficiency instead of enhancing market performance. The socioeconomic environment prevailing in many of developing countries gave evidence to Shaw (1973) and McKinnon's (1973) claim that distortions in interest and foreign exchange rates could reduce the real size of the financial system and overall economic growth. The restrictive financial policies are known to have contributed to the retardation of the economic development process in many developing countries.

Against this background and also in response to international political pressures and the stride toward liberalization of global economy, there has been a wave of financial sector reforms, partly as a way to deepen financial markets and also to promote economic growth. In this paper, liberalization is broadly defined as giving greater role and more freedom to markets (Goyal, 2012). Ghana, for one, has implemented a financial sector reform program since the late 1980s, due to the fact that the banking system had suffered severe decline and distress (Brownbridge and Gockel, 1995). The financial sector reforms included the liberalisation of allocative controls on banks, restructuring of insolvent banks and reforms to prudential regulation and supervision. The essence of the reforms was to promote competition, and hence, efficiency of the financial sector. Obviously, the degree of competition matter for the stability of the banking sector and also of the production of financial services, the quality of financial products, and the degree of innovation in the sector. Buchs and Mathisen (2003) assert that a competitive banking system is required to ensure that banks are effective forces for financial intermediation to channel savings into investment for higher economic growth.

An uncompetitive market does not reflect the true position of the market and hence, financial liberalization will allow countries to reach the optimal productive frontier (Claessens and Laeven, 2003; Ross et al., 2003; Micco et al., 2006). An important characteristic of the

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financial liberalization process for most of the developing world is the influx of new banks, which are mostly foreign. In Ghana, for example, the Ghana Bank Survey (2008) shows that at the end of 2007, there were 12 Ghanaian and 12 non Ghanaian banks. What has to be ascertained therefore is whether financial liberalization in Ghana has impacted on the level of competition and profitability in the banking industry. Both theory and empirical studies show that the relationship between market structure and competitiveness of the banking system. The ambiguity is attributed to country specific differences conditions in terms of institutional and regulatory framework. Consequently, a case study of the Ghanaian situation is in the right direction. Further, the study seeks to assess the impact of financial liberalization on interest rate and accessibility to loan following the liberalization and deregulation of the country's financial sector. Finally, the study examines any differential effects between foreign and Ghanaian owned banks with respect to their performance. Providing answers to these questions could help the regulatory authorities and bank managers in charting the future course of action to be pursued as they seek to balance the need for competition and stability (Majid et al., 2007).

The rest of the paper is organized as follows: an overview of the banking industry in Ghana is presented, which is followed by review of the literature on financial liberalization, competition and profitability. Then a description of the research methodology and discussion of the results of the study are presented. Finally, the policy implications and concluding remarks are offered.

## OVERVIEW OF BANKING INDUSTRY IN GHANA

### Pre-liberalization (1950- 1980's)

Before the 1980s, the financial system of Ghana operated under an umbrella of monetary and regulatory policies aimed at supporting the state developmental agenda (Aryeetey et al., 2001). The public commercial banks were used as instruments of industrialization and operated under a framework characterized by controlled interest rates, directed credit programs, high reserve requirements, and other restrictions on financial intermediation, as well as restricted entry (Brownbridge and Gockel, 1995). As a result, the formal banking system was dominated by the state owned banks. With the exception of two banks – Barclays and Standard Chartered, the country could not boast of any other foreign banks in the entire financial system. The number of branches of these foreign banks was limited to about four cities as opposed to the numerous branches of the state owned banks particularly the Ghana Commercial Bank, which operated at least three branches in each of the ten regions of the country (Asirifi-Cobbina, 1999).

According to Gockel (1995), the policies of the government were motivated by three objectives: to raise the level of investment, to change the sectoral pattern of investment, and to keep interest rates low and stable. Cheap credit was directed to the favored borrowers, mostly the public sector, at the expense of economic efficiency and productive investment (Amamoo et al., 2003). Consequently, financial intermediation in the economy declined and as Amamoo et al. (2003) observed, people abandoned the banking system deposits that yielded negative real interest rates of return, as the rates were fixed below the rate of inflation (Table 1).

The result of government intervention was not what the policy makers planned for because financial repression created distortions in the domestic financial systems. Ghana therefore began to liberalize its financial system to counteract problems associated with financial repression.

### Post liberalization reforms

The economy of Ghana was in a bad state by the beginning of 1983, which compelled the then ruling government (The Provisional National Defence Council [PNDC]) to embark on a comprehensive reform with the view to stem the tide in the worsening economic conditions in the country (Aryeetey et al., 2001). The aim was to develop an efficient and competitive financial system that would support and facilitate the functioning of a liberal economy. Liberalization led to revision of the banking legislation with the enactment of a new Banking Act in 1989 and amended in 2002 and 2004 respectively. There was introduction of Non Banking Financial Institution (NBFI) Act in 1993.

The liberalization of the financial sector sought to inject efficiency through competition into the financial system. The liberalization of interest rates occurred in 1988 as part of the Financial Sector Adjustment Programme (FINSAP). This action aimed at restructuring distressed banks, developing financial and capital markets and more generally liberalizing the financial environment to improve efficiency of resource (savings) mobilization and credit allocation (Amamoo et al., 2003).

There was also introduction of standardized reporting and accounting procedures, and the strengthening of supervisory capacities of the Bank of Ghana. It is against this back-drop that the number of banks licensed to operate in Ghana has more than doubled within the last two decades. By the early 1990s, banks were free to price deposits and loans and to allocate loans according to market determined prices although the Central Bank's prime rate served as the benchmark. Bawumia et al. (2008) claim that the financial system of Ghana was profoundly transformed by the help of the joint IMF-World Bank Financial Sector Assessment Program (FSAP) and its update in 2003.

Some indicators of success include the fact that

**Table 1.** Interest rates (1970 – 2000).

| Year | NLR | NIR | RLR | RIR |
|---|---|---|---|---|
| 1970 | 10 | 6.75 | 7 | 3.75 |
| 1971 | 14.5 | 11 | 6.5 | 3 |
| 1972 | 14.5 | 11 | 3.7 | 2 |
| 1973 | 10 | 7.5 | -7.1 | -9.6 |
| 1974 | 10 | 7.5 | -8.8 | -11.3 |
| 1975 | 12.5 | 10 | -17.3 | -19.8 |
| 1976 | 12.5 | 10 | -42.9 | -45.4 |
| 1977 | 12.5 | 10 | -104 | -106.5 |
| 1978 | 19 | 15.25 | -54.1 | -57.85 |
| 1979 | 19 | 15.25 | -35.5 | -39.25 |
| 1980 | 19 | 15.25 | -31.1 | -34.85 |
| 1981 | 19 | 15.25 | -97.5 | -101.25 |
| 1982 | 19 | 15.25 | -3.3 | -7.85 |
| 1983 | 19 | 15.25 | -103.8 | -107.55 |
| 1984 | 21.17 | 18.34 | -17.83 | -20.66 |
| 1985 | 21.17 | 18.46 | 10.77 | 8.06 |
| 1986 | 20 | 18.5 | -4.6 | -6.1 |
| 1987 | 25.5 | 21.54 | 14.3 | 18.26 |
| 1988 | 25.58 | 21.04 | -5.82 | -10.36 |
| 1989 | 30.3 | 23.15 | 5.1 | -2.05 |
| 1990 | 30.3 | 24.65 | -6.8 | -12.45 |
| 1991 | 30.5 | 25.91 | 12.5 | 7.91 |
| 1992 | 29 | 22.66 | 18.9 | 12.56 |
| 1993 | 30.5 | 27.07 | 5.5 | 2.07 |
| 1994 | 30.5 | 26.83 | 5.6 | 1.93 |
| 1995 | 36 | 32.27 | -23.5 | -27.13 |
| 1996 | 40.5 | 37.5 | -6.1 | -9.1 |
| 1997 | 42 | 38.88 | 14.2 | 11.08 |
| 1998 | 38 | 35.03 | 23.4 | 28.43 |
| 1999 | 36.9 | 30.23 | 24.47 | 17.8 |
| 2000 | 35.2 | 30.2 | 9.6 | 4.6 |

Sources: International Financial Statistics (various issues).
The State of the Ghanaian Economy (various issues). NLR = Nominal lending rate; NIR = Nominal interest rate; RLR = Real lending rate; RIR = Real interest rate.

Ghana's financial sector development had a notable impact on growth, which rose to 6.3% in 2007 from 4.5% in 2002. Also, the ratio of money (M2) to GDP, a measure of financial deepening doubled after 2004, reaching 43%.of GDP by end of 2007. Much of the increase was funded by an increase in demand and savings deposits. Reduced direct involvement of the state has unleashed the dynamism of the financial sector. The state's role is thus shifting toward oversight to ensure the integrity of the financial system (Bawumia et al., 2008). Some of the new entrants introduced longer openings hours, cut queues in banking halls and provided more personalised services. A number of innovations occurred and new products were made available: these included credit and debit cards, automated teller machines (ATMs), interest bearing current accounts, and savings accounts with cheque books. Cheque clearing has been speeded up. The government-owned banks are making efforts to improve services and to provide services oriented to customer needs. However the impact of new entrants on the cost, quality and range of financial services has been limited for a number of reasons.

Financial liberalization, which has facilitated the entry of new banks and or competition, has led to the reduction in the market concentration in the banking industry. The

share of the four largest banks in total banks deposit fell from 76% in 1988 to 70% in 1994; 59% in 2003; and 47% by the end of 2007 (Brownbridge and Gockel, 1995; Ghana Banking Survey, 2008: Bawumia et al., 2008).

## LITERATURE REVIEW

The theory of financial liberalization based on McKinnon (1973) and Shaw (1973) focuses on the economic benefits of liberalization. Karahasan (2011) asserts that financial liberalization that leads to a relaxation of the restrictions in financial markets is a prerequisite for economic growth. Ahmed and Suardi (2009) argue that trade and financial openness are associated with greater output, efficacy of consumption smoothing and stabilizes income and consumption growth. The assumption is that liberalization of the financial markets will allow the free market to determine the allocation of resources with the real interest rate adjusting to its equilibrium level (Girma and Shortland, 2005). But even more important, it is able to relieve “financial repression” by freeing interest rates and allowing financial innovation, reducing directed and subsidized credit, as well as allowing for greater freedom in terms of external flows of capital in various forms (Ghosh, 2005).

Also, as the real rate of interest increases, saving and the total real supply of credit increase, which induce a higher volume of investment. Economic growth would therefore be stimulated not only through the increased investment but also by an increase in the average productivity of capital. The resulting competitive environment leads to new product development and efficient service delivery and appropriate technologies that promote consumer welfare. In a developing country like Ghana, this is quite critical, as the increased competition will compel banks to search for new recipients for loans and investments opportunities even in economic regions that were hitherto considered to be risky (Ghosh, 2005). It has also been suggested that financial liberalization helps to promote industrialization as it removes the credit access constraint in firms especially small and medium ones (Kabongo and Paloni, 2011).

Furthermore, financial liberalization apart from alleviating liquidity constraints in financial markets could enable a country to be integrated into the world markets, and promote transparency and accountability. Claessens and Leaven (2003) claim that being open to new entry is the most important competitive pressure, which is consistent with Besanko and Thakor’s (1992) assertion that the threat of new entrants can be a more important determinant of the behaviour of market participants.

Empirically, Harangus (2008), studied financial liberalization in Romania and reported that financial liberalization associated with the influx of new banks led the banking system on a new corridor of performance due to the intensification of competition and the increase in offering new products and complex bank services. Alzer and Dadasov (2012) in a panel analysis of 110 countries over the period 1984-2005 reported that financial openness helps to deepen institutional quality. The results of the study suggest that a higher degree of financial openness improves institutional quality by reducing investment risk. In light of the expected benefits, Raza and Moshin (2011) argue that developing countries usually liberalize their economy because the economy cannot grow at a fast rate under financial repression. In a comparative study of three Asian countries based on Johansen co-integration techniques, Raza and Moshin (2011) report that there exist a long run relationship between financial liberalization and economic performance.

Similarly, Shankar and Sanyal (2007) in a study of liberalization of the banking industry in India after 1991 found that financial liberalization led to an increase in competition and productivity across all banks (both public and private), even though private banks did outperform the public sector banks. Unlike Shankar and Sanyal (2007), Paolo and Cetorelli (2000) reported an increase in competition, in a study of Italian banking industry between 1983 and 1997, however, estimated mark-ups or profitability did go down for most banks. From a comparative perspective, Claessens and Laeven (2003) using bank –level data in a cross country study (50 countries), found that liberalization associated with restrictions on foreign entry and activity tends to be more competitive. A comparable result was reported by Majid et al. (2007) in their study of Malaysian Banks, where they found that the influx of new banks with some restrictions on banking operations led to increase competition in the banking sector.

Despite the benefits of liberalization, there are some negative economic and social effects, which might overshadow the benefits of financial liberalization (Ghosh, 2005). Ang (2010), for example, shows that financial liberalization does not seem to reduce unequal access to finance and even more importantly it has aggravated income inequality in India. In a related study of emerging economies for the period 1990-2004, Rodriguez et al. (2010) report that the positive effect of financial liberalization is not as strong as thought especially in developing countries. Beck (2008) and Kaminsky and Schmukler (2003) have noted that financial liberalization has often been blamed for subsequent banking fragility in many developed and developing countries. Ang (2011) also find that while financial development facilitates the accumulation of new ideas, the implementation of financial reform policies is negatively associated with it. According to Ang (2011), the undesirable effects of financial liberalization are found to operate through the triggering of crises and volatility in the financial system. There is also evidence supporting the hypothesis that financial liberalization reallocates

talent from the innovative sector to the financial system, thus retarding technological deepening. These findings are consistent with Emran and Stiglitz's (2009) argument of a fundamental conflict between financial liberalization and private sector development in developing countries. Using a simple model of occupational choice moral hazard, Emran and Stiglitz's (2009) argument show that under financial liberalization banks may fail to finance new entrepreneurs because of poaching externality and systematically favouring projects with front loaded returns at the expense of projects with strong learning effects.

Likewise, if competition among banks in the newly deregulated financial sector is weak, liberalization may result in lower real deposit rates rather than the anticipated movement toward modestly positive equilibrium levels (Huw and Mahmood, 1997). In addition, financial liberalization exposes indigenous protected firms to competition, which may result in their destruction. Also, in many developing countries, financial liberalization has led to capital flight (Yalta and Yalta, 2012). This is why in some cases firms try to oppose financial reforms that breed competition (Rajan and Zingales, 1998).

Girma and Shortland (2005), on the other hand, argue that in many underdeveloped economies with financial repression, government intervention in the economy through credit and interest controls help to lower the cost of business. Indeed, the government may channel resources to particular strategic sectors as part of a country's long term development strategy. This supports the view of Burgoon et al. (2012) that political factors are critical in shaping the impact if financial liberalization in developing countries. Further, Grima and Shortland (2005) claimed that financial liberalization often has adverse consequences, particularly when financial regulation and supervision are not sufficiently effective to prevent moral hazard among banks. Also, it is important to note that financial deregulation creates opportunities for banks to make poor lending decisions. Obviously, if prior to reform, banks did not made loans based on market criteria, their ability to manage credit evaluation and allocation is likely to have either atrophied or never been developed.

Additionally, the key assumptions underpinning financial reforms (for example, perfect information and profit maximizing behavior of commercial banks) are highly unlikely to be met in the real world, especially in the developing world context. Fischer and Chenard (1997) make a similar argument in their assertion that there is an unambiguous increase in risk to the banking sector, which implies a higher probability of a banking crisis following financial liberalization. In a related study of Jamaica, Duncan (1999) reported that the Jamaican economy entered into crisis in the mid-1990s after liberalization of the financial sector. This was said to have engendered dramatic reversals in the growth of the banking sector. Similarly, Arestis (2003) in a survey of 53 countries over the period 1980-1995 found that financial reforms and financial liberalizations have been at the root of many recent financial and banking crises. In another recent study, Cull and Martinez (2007), using data on the share of banking sector assets held by foreign banks in over 100 developing countries during 1995-2002, reported that banking and financial crises are more likely to occur in liberalized financial systems.

In Malawi where fairly detailed monthly panel data for commercial banks was used in studying the post-liberalization effects, the spreads was found to be high (Ephraim and Montfort, 2004). Similarly, in Nigeria, Isola (2005) after examining the market reform from 1986 - 2003 confirm that the reform has a negative impact on the industrial sector in Nigeria. The review of the literature indicates that the impact of financial liberalization depends on the level of development and the quality of institutions (Broner and Ventura, 2010: Saoussen and Dominique, 2010). Accordingly, the study contributes to the literature by examining the impact of financial liberalization in the Ghanaian context. The research methodology used in the study is discussed next.

## DATA AND METHODOLOGY

The study examined the impact of financial liberalization on competition in the banking industry. For the empirical analysis, 22 banks (12 domestic and 12 foreign owned banks), were used for the study over the period from 2003 from 2007 (Table 2). The study sought to test the hypotheses of Herfindahl-Hirschman Index (HHI) of structure-conduct-performance' (SCP) model presented by Berger et al. (2004). Herfindahl-Hirschman Index is a measure of the size of firms in relation to the industry and an indicator of the intensity of competition among them. HHI is a simple but useful tool for the measurement of competition within an industry as used by many authors including Majid et al. (2007), Ceteroli, 1999; and Casu and Girardone (2007).

The HHI is calculated as the sum of squared of all the banks' market shares, where market share may be based on either deposits or assets or loan. For the purpose of this study, HHI was calculated for both assets and deposits over the period of five years, that is, from 2003 to 2007.

Mathematically, $HHI = \Sigma_i^n MS^2$

where:

n = number of banks
I = bank i and
$MS^2$ = square of market share of each bank (the market shares in this study are deposit and asset).

The HHI stresses the importance of larger banks by assigning them a greater weight than smaller banks (Bikker and Haaf, 2001). According to the SCP approach, decrease in the Herfindahl index generally indicates a loss of market power and an increase in competition, whereas an increase in the HHI implies the opposite. In the case of a monopoly, when one firm has 100% of the market share, the HHI will be equal to 10,000 (100) which is the upper bound. The lower bound of zero is attained when the market is perfectly competitive.

Larger the HHI, the less competitive the market becomes. On the

**Table 2.** List of banks.

| Name of bank | Abbreviation | Ownership |
|---|---|---|
| Agriculture Development Bank LTD. | ADB | Ghanaian |
| Amalgamated Bank Ltd. | ABL | Ghanaian |
| Barclays Bank of Ghana Ltd | BBG | Non-Ghanaian |
| BPI Bank Ltd. | BPI | Non-Ghanaian |
| CAL Bank Ltd. | CAL | Ghanaian |
| Ecobank Ghana Ltd. | EBG | Non-Ghanaian |
| Fidelity Bank Ltd. | FBL | Ghanaian |
| First Atlantic Merchant Bank Ltd. | FAMBL | Ghanaian |
| Ghana Commercial Bank Ltd. | GCB | Ghanaian |
| Guaranty Trust Bank Ltd. | GTB | Non-Ghanaian |
| HFC Bank Ghana Ltd. | HFC | Ghanaian |
| Intercontinental Bank Ltd. | Intercon | Non-Ghanaian |
| International Commercial Bank Ltd. | ICB | Non-Ghanaian |
| Merchant Bank (Ghana) Ltd. | MBG | Ghanaian |
| National Investment Bank Ltd. | NIB | Ghanaian |
| Prudential Bank Ltd. | PBL | Ghanaian |
| SG-SSB Bank Ltd. | SG-SSB | Non-Ghanaian |
| Stanbic Bank Ghana Ltd. | Stanbic | Non-Ghanaian |
| Standard Chartered Bank Ghana Ltd. | SCB | Non-Ghanaian |
| The Trust Bank Limited TTB | TTB | Ghanaian |
| UniBank Ghana Limited UGL | UGL | Ghanaian |
| Zenith Bank Limited ZBGL | ZBGL | Non-Ghanaian |
| Metropolitan and Allied Bank (Ghana) Limited | M&AB | Ghanaian |
| United Bank of Africa | UBA | Non-Ghanaian |

Source: Ghana Banking Survey (2008).

other hand, the smaller the HHI, the more competitive the market becomes. A yearly data of twenty two banks that operated over the period 2003 to 2007 was used for construction of HHI. The data from PriceWaterCoopers and Association of Bankers included the market shares (that is deposits and assets) of the banks and profitability ratios [return on equity (ROE) and return on assets (ROA)]. These data covers the year 2003 to 2007. Table 3 shows the summary statistics from 2003 to 2007.

## EMPIRICAL RESULTS

Before 2003, the financial sector was dominated by the three largest banks: Ghana Commercial Bank Limited (GCB), Barclays Bank of Ghana Limited (BBG), and Standard Chartered Bank Limited (SCB). For instance, in 2001 and 2002 the total market share of the three banks in terms of deposits was 58.64 and 56.02%, respectively. However, as new banks entered the market, the market power of these banks began to dwindle. By 2007, the market power of the three major banks dropped to 44.34% from 56.02% in 2003 (Figure 1). Most of the large banks consistently recorded declining market shares in deposits. For example, the market share of deposits decreased from 19.35 and 17.76% to 15.9 and 10.25% for Ghana Commercial Bank and Standard Bank, respectively between 2003 and 2007. Barclays Bank, however, was able to increase its market share of deposits from 17.7 to 18.19%. This impressive performance may be attributed to microfinance strategy adopted by BBG. It is important to note that though Barclays Bank became the market leader in terms of deposits in 2007, though Ghana Commercial Bank still holds supremacy in net advances.

The new but smaller banks, however, at the same period increased their market shares. For instance, Unibank Ghana Limited's (UGL) share of industry deposit rose from 0.45 to 0.69%, ABL share rose from 0.85 to 1.53% and Stanbic Bank rose from 1.84 to 4.72, while ADB and BPI experienced negative growth of 48 and 50%, respectively. Thus, for the small and new entrants; Stanbic grew the most by nearly 400% over the period, though in absolute terms, Barclays Bank still dominates the market in deposit mobilization. The key success factor for Stanbic bank may be attributed to its relationship marketing (adding value to customers by offering tailor made banking solutions), which it describes as its core competence (Ghana Investment Promotion Center, 2008). The performance of the new banks can be attributed to the aggressiveness with which they are ready to operate and introduce more products into the

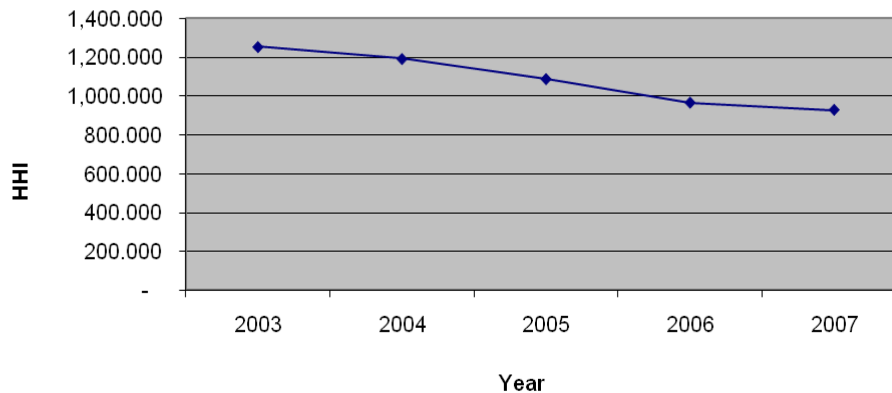


**Figure 1.** Herfindahl-Hirshman Index - HHI (Deposits).

**Table 3.** Construction of Herfindal-Hirscman Index HHI from market share of deposit.

| Bank | 2007 | | 2006 | | 2005 | | 2004 | | 2003 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | MS | MS² | MS | MS² | MS | MS² | MS | MS² | MS | MS² |
| BBG | 18.19 | 330.87 | 15.1 | 228.01 | 16.25 | 264.06 | 16.53 | 273.24 | 17.7 | 313.29 |
| GBC | 15.9 | 252.81 | 17.5 | 306.25 | 18.43 | 339.66 | 20.13 | 405.22 | 19.35 | 374.423 |
| SCB | 10.25 | 105.06 | 12.85 | 165.12 | 14.46 | 209.09 | 16.22 | 263.09 | 17.66 | 311.876 |
| EBG | 8.29 | 68.72 | 8.74 | 76.39 | 9.29 | 86.30 | 8.5 | 72.25 | 7.65 | 58.5225 |
| MBG | 5.69 | 32.37 | 6.14 | 37.70 | 5.49 | 30.14 | 5.08 | 25.81 | 4.85 | 23.5225 |
| ADB | 4.8 | 23.04 | 6.46 | 41.73 | 7.06 | 49.84 | 7.55 | 57.00 | 9.23 | 85.1929 |
| SG-SSB | 4.95 | 24.50 | 6.52 | 42.51 | 6.95 | 48.30 | 7.44 | 55.35 | 7.68 | 58.9824 |
| STANBIC | 4.72 | 22.27 | 2.84 | 8.06 | 2.5 | 6.25 | 3.02 | 9.12 | 1.84 | 3.3856 |
| NIB | 4.33 | 18.75 | 4.68 | 21.90 | 4.88 | 23.81 | 2.1 | 4.41 | 2.1 | 4.41 |
| PBL | 3.15 | 9.92 | 2.87 | 8.23 | 2.81 | 7.89 | 2.37 | 5.62 | 1.86 | 3.4596 |
| CAL | 2.16 | 4.66 | 2.43 | 5.90 | 2.44 | 5.95 | 2.55 | 6.50 | 2.34 | 5.4756 |
| TTB | 2.69 | 7.24 | 2.58 | 6.66 | 2.87 | 8.24 | 3.07 | 9.42 | 2.75 | 7.5625 |
| FAMBL | 1.78 | 3.17 | 1.64 | 2.69 | 1.72 | 2.96 | 1.08 | 1.17 | 1.31 | 1.7161 |
| HFC | 1.48 | 2.19 | 1.53 | 2.34 | 1.09 | 1.19 | 0.81 | 0.66 | 0.66 | 0.4356 |
| ZBL | 2.54 | 6.45 | 1.54 | 2.37 | 0.1 | 0.01 | - | - | - | - |
| FIDELITY | 2.34 | 5.47 | 1.87 | 3.50 | - | - | - | - | - | - |
| ABL | 2.23 | 4.97 | 1.53 | 2.34 | 1.1 | 1.21 | 1.19 | 1.42 | 0.85 | 0.7225 |
| INTERCON | 1.46 | 2.13 | 0.33 | 0.11 | - | - | - | - | - | - |
| ICB | 1.1 | 1.21 | 1.38 | 1.90 | 1.39 | 1.93 | 1.21 | 1.46 | 1.01 | 1.0201 |
| UGL | 1 | 1.00 | 0.69 | 0.47 | 0.61 | 0.37 | 0.53 | 0.28 | 0.45 | 0.2025 |
| GTB | 0.59 | 0.35 | 0.29 | 0.08 | - | - | - | - | - | - |
| BPI | 0.36 | 0.13 | 0.49 | 0.24 | 0.54 | 0.29 | 0.62 | 0.38 | 0.72 | 0.5184 |
| $\sum_1^n MS^2$ | | 927.32 | | 964.53 | | 1087.523 | | 1192.401 | | 1254.717 |

Source: Authors' calculation based on Ghana Banking Survey (2008).

market, for example, the EasySave by Amalbank, Kiddysave by CAL, Bank and Deal of a Lifetime by Intercontinental bank. Further, banks' aggression for new markets and customers saw the industry's most remarkable single year growth in branch network; with Barclays alone having 65 new branches, Ecobank Ghana Limited 11 and UGK, Stanbic, ABL, and MBG all open five new branches in 2007.

The findings of the study agree with Berger et al. (2004) model that an industry becomes competitive as the number of firms increase. The increasing level of competition can be seen in the HHI figures in Table 3; the value declined from over 1254 in 2003 to 927 in 2007. By the end of the study period, the market shares of both deposits and assets for the three main traditional banks (BBG, SCB and GCB) had declined although that of BBG improved marginally by 2.7 and 5.2% respectively. It could be argued that BBG's improvement in market share

**Table 4.** Construction of Herfindal- Hirschman Index (HHI) from market share of assets.

| Banks | 2007 | | 2006 | | 2005 | | 2004 | | 2003 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | MS | MS² | MS | MS² | M | MS² | M | MS² | M | MS² |
| BBG | 15.67 | 245.55 | 12.68 | 160.78 | 13.64 | 186.05 | 15.4 | 237.16 | 14.9 | 222.01 |
| GBC | 14.95 | 223.5 | 15.08 | 227.41 | 16.23 | 263.41 | 17.93 | 321.49 | 19.98 | 399.2 |
| SCB | 10.59 | 112.15 | 13.81 | 190.71 | 14.23 | 202.49 | 14.14 | 199.94 | 15.08 | 227.41 |
| EBG | 8.44 | 71.23 | 8.09 | 65.45 | 8.73 | 76.21 | 7.49 | 56.1 | 6.63 | 43.96 |
| MBG | 6.18 | 38.19 | 6.52 | 42.51 | 5.3 | 28.09 | 4.48 | 20.07 | 3.91 | 1529 |
| ADB | 6.09 | 23.04 | 7.97 | 63.52 | 9.5 | 90.25 | 9.95 | 99 | 11.79 | 139 |
| SG-SSB | 5.47 | 24.5025 | 7.11 | 50.55 | 8.07 | 65.13 | 7.84 | 61.47 | 8.23 | 67.73 |
| STANBIC | 4.6 | 22.2784 | 2.63 | 6.92 | 2.44 | 5.96 | 2.84 | 8.07 | 1.65 | 2.72 |
| NIB | 4.51 | 18.7489 | 5.44 | 29.6 | 5.26 | 27.67 | 4.74 | 22.47 | 4.11 | 16.89 |
| PBL | 3.17 | 9.9225 | 3 | 9 | 2.82 | 7.95 | 2.81 | 7.9 | 2.42 | 5.86 |
| CAL | 3.05 | 4.6656 | 3.05 | 9.3 | 2.68 | 7.18 | 2.65 | 7.02 | 2.31 | 5.34 |
| TTB | 2.88 | 7.2361 | 2.39 | 5.71 | 2.72 | 7.4 | 2.89 | 8.35 | 2.49 | 6.2 |
| FAMBL | 2.2 | 3.1684 | 2.67 | 7.13 | 2.32 | 5.38 | 1.62 | 2.62 | 1.63 | 2.66 |
| HFC | 2.11 | 2.1904 | 2.08 | 4.33 | 1.95 | 3.8 | 1.91 | 3.65 | 2.02 | 4.08 |
| ZBL | 2.05 | 6.4516 | 1.26 | 1.59 | 0.39 | 0.15 | 0 | - | 0 | - |
| FIDELITY | 1.91 | 5.4756 | 1.54 | 2.37 | 0 | - | 0 | - | 0 | - |
| ABL | 1.96 | 4.9729 | 1.29 | 1.66 | 1.11 | 1.23 | 1.18 | 1.39 | 1.19 | 1.42 |
| INTERCON | 1.29 | 2.1316 | 0.38 | 0.14 | 0 | - | 0 | - | 0 | - |
| ICB | 1.07 | 1.21 | 1.35 | 1.82 | 1.25 | 1.56 | 1.08 | 1.17 | 0.86 | 0.74 |
| UGL | 0.91 | 1 | 0.72 | 0.52 | 0.61 | 0.37 | 0.55 | 0.3 | 0.33 | 0.12 |
| GTB | 0.54 | 0.3481 | 0.41 | 0.17 | 0.26 | 0.07 | 0 | - | 0 | - |
| BPI | 0.38 | 0.1296 | | 0.26 | 0.49 | 0.24 | 0.52 | 0.27 | 0.48 | 0.23 |
| $\sum_1^n MS^2$ | | 828.0922 | | 881.45 | | 980.59 | | 1057.73 | | 2674.57 |

Source: Authors' calculation based on Ghana Banking Survey (2008).

could be attributed to the aggressive opening of new branches.

The share of assets displays a similar trend as in the deposits. Barclays Bank is the most consistent bank of the largest three banks over the study period. It is the only major bank to have increased its market share in assets over the 2003 figures. Though, the increase was marginal (from 14.9% in 2003 to 15.67% in 2007), both Standard Chartered Bank and Ghana.

Commercial Bank lost appreciably (from 15.05to 10.59% and from 19.98 to 14.95%, respectively). Again, Stanbic's share of assets improved the most for the small and new banks (from 1.65 to 4.6%); which is a similar performance in terms of deposits. The HHI for assets decreased from 2674 in 2003 to 828 in 2007 (Table 4 and Figure 2), which shows an increased level in the intensity in competition between the banks. The share of assets of the three largest banks decreased from 50% in 2003 to 40% in 2007, while the new and or the small banks were able to capture some share out of the well established banks. This finding is consistent with a Bank of Ghana report on the banking sector, which indicated a decrease in interest margins, lower fee income, and increasing costs due to competition.

The competition in the banking sector has impacted on the cost of borrowing (interest rate). Over the sample period, the interest rate has consistently declined though at different rates. The interest rate which stood at 35% in 2003 had declined to about 21% in 2007. Another area in which the competition affected some characteristics of the industry included the loan volume, which tripled from 2.54 billion Ghana cedis to about 7.5 billion Ghana cedis over the period. The lower interest rate had some implications on the level of borrowing, especially when considered in light of the fact that liberalization of the financial sector brought in many banks and money into the economy especially the foreign ones. It is also the case that the banks have more money to lend because of the abolition of the secondary reserves by the Central Bank in August 2006. It could further be argued that because the government accrued funds from highly indebted poor country (HIPC), initiative coupled with funds received from millennium challenge account, borrowing by government from the commercial banks was reduced.

## Competition and profitability

The industry profitability ratios; return on assets (ROA) and return on equity (ROE) display similar trend over the sample period of 2003 to 2007 (ROE and ROA declined).

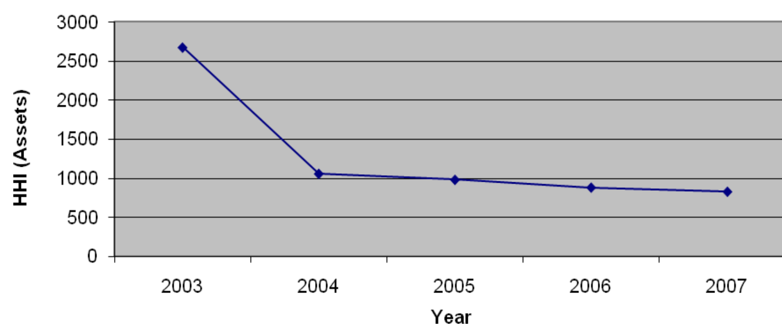


**Figure 2.** Herfindahl-Hirshman Index-HHI (Assets).

**Table 5.** Industry profit before tax, ROE and ROA.

| Year | Profit before tax | Return on asset | Return on equity |
|---|---|---|---|
| 2003 | 39.3 | 3.94 | 34.8 |
| 2004 | 41.1 | 4.1 | 35.8 |
| 2005 | 36.3 | 3.5 | 28.4 |
| 2006 | 35.8 | 3.5 | 28.4 |
| 2007 | 32.4 | 2.9 | 26.5 |

Source: Ghana Banking Survey, 2008.

The trend of ROE is directly related to HHI indices. The implication is that, as the industry becomes more competitive, the industry profit declines (Table 5). Competition for limited customers coupled with falling interest rates combined to pile pressure on profitability margins of the industry. The profit before tax decreased from 39.3% in 2003 to 32.4% in 2007, while the return on asset (ROA) decreased from 3.94% in 2003 to 2.94% in 2007 and the return of equity (ROE) decreased from 34.8 to 26.5%. As competition intensified, margins and returns declined, yet the industry remained attractive (Ghana Banking Survey, 2008). The report shows that the banking sector in Ghana remains one of the sectors with the brightest opportunities despite increasing competition. Net interest income has doubled between 2003 and 2007 and net profit also increased by 120% over the period. This is in support of an earlier study by Buchs and Mathisen (2003), which indicates that despite the high levels of competition and the high overhead costs, Ghanaian banks' pre-tax returns on assets and equity are among the highest in SSA. By the end of the period of the study, Stanbic became the best performing bank, which grew by 54.4% (ROA) and 194% (ROE) respectively. NIB, on the other hand, was the least performing bank with its negative growth rate of -75.5% (ROA) and -69.4% (ROE). In spite of the competition, BBG, GCB and SCB still dominate the market with respect to market share of deposit, assets and profit. It is important to note that the results show that on average, BBG and Stanbic are the two best performing banks. Interestingly, these two banks are all foreign owned banks.

## POLICY IMPLICATIONS AND CONCLUSION

The study examined the impact of financial liberalization on the banking sector and found that the financial sector liberalization brought about competition in the banking industry, which led to a decline in interest rate and increased accessibility to loan facilities. The increased competition and the influx of new banks led to a reduction in profitability of banks. Though the dominant banks still maintain their dominance, their market shares have declined over the past decade following financial liberalization. The overall best performers in terms of deposits, assets, ROE, and ROA for the old and new banks are Barclays Bank and Stanbic Bank, respectively (all foreign owned).

The study's findings suggest that for the country to reap the full benefits of competition, the government should deepen the liberalization process to enable more banks and non-banks to be established in the country. To this effect, we make the following recommendation: First, efforts must be made to eliminate all forms of obstacles (usually political) to trade in financial services, for example, undue delay in issuing operating licence. This is critically important in helping to bring many of the population in the informal sector into formal economy. Concerted effort must be made to reverse the declining trends in the level of saving with banks as over 75 per cent of total currency issued by the BoG are in the homes of citizens (George and Bob-Milliar, 2007).

Second, there must be an establishment of credit bureau to ensure the credibility of borrowers and an

impartial and transparent regulation to assure investors good protection, less bureaucratic and disclosure of information by issuers. However, in implementing the above recommendations, the government should empower the Central Bank and any other relevant institutions to monitor and supervise the activities of the banks to avoid moral hazard and adverse selection issues. While proper regulatory safeguards (entry requirements, capital regulations, liquidity requirements) and effective bank supervision are important, an incentive compatible financial safety net that forces banks to assume the consequences of their risk decisions seems especially important. Finally, the authors would want to state that the HHI model did not consider the macro-economic environment in which the banks operate. Accordingly, future research could focus on exploring the implications of altering the macroeconomic factors such as exchange rate, inflation, growth rate and, branch networks, and the level of technology since market size alone is not sufficient for contestability. A more robust approach such as the Panzar and Rosse methodology, which adjusts to changes in the macroeconomic conditions, could to be used in future studies. The study was unable to use Panzar and Rosse model because of data constraints.

The paper concludes that though financial liberalization is an important component of development strategy; it is only one of such strategies. Appropriate macro economic policy, institutional development and structural reform must accompany financial liberalization and create the stable context required for it to be much more successful. This presupposes that financial liberalization cannot be implemented in a vacuum and that at the firm level, the legal, accounting, management, and supervisory infrastructure of the financial sector should be strengthened. It is also important to take note of the fact that financial liberalization may systematically favour short term projects with front-loaded returns at the expense of projects with strong learning effects. Thus, it should be managed in such a way that it does not hinder entrepreneurial development. A typical strategy with an entrepreneurial bias is a policy that aims to improve the relative probability of new industrial lending and a subsidy to entrepreneurial activities. The survey of the literature and findings suggest that liberalization can be an extremely important component of a successful development strategy. However, well designed policies and temporary restrictions on competition in banking as advocated recently in the financial restraint paradigm are appropriate when the focus of development strategy is the discovery new of entrepreneurial talents and innovative learning.

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