Research Journal of Finance and Accounting
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online)
Vol.7, No.3, 2016

Ethiopian Banking Sector Development

Hussein Jarso Belda
Research Scholar Andhra University, India

Abstract
Financial development is comprehensive term that represent the structure, size, accessibility and efficiency of financial intermediaries. Each of this element of financial development is measurable. This paper deals with the structure of Ethiopian financial system, and size, accessibility, efficiency and concentration of the banking sector in particular. These dimensions of Ethiopian banking sector measured using ratio of private sector credit to GDP, demographic and geographic distribution of banks' branches, interest rate spread, concentration ratio and Herfindahl-Hirschman index. As the result of the analysis show Ethiopian banking sector was shallow, less inclusive and highly concentrated.
Keywords: Ethiopian banking sector, concentration ratio, Herfindahl-Hirschman index.

1. Introduction

Financial system is a set of interrelated subsystem that facilitate basically the exchange of money between lenders and borrowers. It consists of financial market and financial intermediary. Financial market is where direct transfer of funds takes place, while indirect transfer occurred through financial intermediary. The term financial intermediary stands for financial institutions specialized in the activity of buying and selling at the same time assets and financial contracts. As a result, they hold relatively large quantities of financial claims as assets and liabilities in contrast with nonfinancial firms. They are typically multifaceted, and their activities can be understood from a variety of vantage points. To this end, Andries (2009) stated to analyze them from two perspectives: as firms and intermediaries. Analysis of them as firms is about their behavior and made in the same way as the economists analyze other types of firm, while analyzing them as intermediaries implies the analysis of the services they offer to their clients.

Financial development can be defined as policies, factors, and institutions that lead to the efficient intermediation and effective financial markets (Adnan, 2011). It is a process that marks improvements in quantity, quality and efficiency of financial intermediary's services (Liu and Calderon, 2003). Developed, publicly trusted and stabilized financial sector will increase liquidity and allocation of capital to its most productive uses (World Economic Forum, 2012), which in turn accelerate economic growth and poverty reduction. In other words, the greater the financial development, the higher would be the mobilization of savings and its allocation to high return projects. Thus, analyzing the development of this sector is important as it is one of important player in economic progress of a country.

Financial intermediary's development expressed through measurements of its depth, size, accessibility, soundness, and composition. These factors focus on three basic characteristics of financial system: (i) the level of financial intermediation, (ii) the efficiency of financial intermediation and (iii) the composition of financial intermediation (FitzGerlad, 2006). The level of financial is the reflection of its depth and accessibility to users. Their level is important to get the benefit of economies of scale. They enjoy economies of scale more when there is efficiency in provision of services. The more efficient the financial intermediation function the lower amount of scarce resources it consumes. In other words, borrowers can be charged lower interest rate and thus a higher level of fund channeled to borrowers at cheaper rate. Otherwise, the higher interest rate lower credit disbursed to the productive sector (Beck, 2006). Thus, efficiency of financial system is a necessary condition for higher economic growth (Sahoo, 2013).

Developed financial system in addition to its size and efficiency, it differs from other by its composition. Developed financial system consists of financial intermediaries and financial market for primary and secondary money and capital financial instruments. Studying this attribute of financial system is important because it affect economic growth, volatility and financial stability (IMF, 2012). Beck, Demirgüç-Kunt and Levine (1999) in their evaluation of financial structure they grouped financial institutions into three categories. The first group comprises the central bank and other institutions that perform functions of the monetary authorities. The second group, deposit money banks, comprises all financial institutions that have liabilities in the form of deposits transferable by check or otherwise usable in making payments. The third group-other financial institutions-comprises other bank like institutions that serve as financial intermediaries, while not incurring liabilities usable as means of payment. This paper examined Ethiopian banking sector development from the perspective of its composition, depth, efficiency and concentration.

2. Methodology and Data

The development of Ethiopian banking sector system studied through examining its structure, size, accessibility, efficiency and concentration. Structure mean the type of financial institutions operating in the country's jurisdiction. Accessibility of these institutions to the general public is their geographic and demographic dispersion. It is measured through the division of the total number of bank branches per 1000 km^2 and 100,000 adult populations. Along with these ratios the concentration of banks in terms of asset, branch, deposit mobilization and loan disbursement was measured. The three and five largest banks concentration ratio calculated for asset, deposit and loan items of balance sheet. This method considered only the largest banks, in other words, it does not give chance to all banks in the sector. Its higher value interpreted as monopoly position of a few banks in the sector. These concentration ratios calculated using the following formula.

$$CR = \sum_{i=1}^{K} S_i$$

Where K is the three or five largest banks in Ethiopia excluding National Bank of Ethiopia (NBE).

S_i is each of the three or five bank's share in the total assets or deposit mobilized or disbursed/outstanding loan amount of the banking industry.

A high value of this ratio indicates a highly concentrated market, which lead to lack of competitive pressure. In addition to these concentration ratios the Herfindahl-Hirschman Index (HHI) was calculated using the following formula.

$$HHI = \sum_{i=1}^{n} S_i^{\,2}$$

Where n is the number of banks in Ethiopia excluding National Bank of Ethiopia.

S_i is i bank's share from total assets or deposit amount or disbursed/outstanding loan of banking industry.

The panel data were used for this analysis that comprises all banks (except National Bank of Ethiopia) of the Ethiopian banking industry. The data are annual and cover the period of 2008 to 2014. The data collected from annual bank reports and National Bank of Ethiopia annual report.

The size, efficiency and soundness indicators of financial development calculated using the financial institution's income and balance sheet items. Bank credit to private sector divided by GDP is the most commonly used proxy of banking industry's depth. The higher value of this ratio mean that developed banking sector. In addition, it indicates the level at which banks' loans allocated to the private sector. Banks for performing this basic function incur cost of financial intermediation. Thus, their development is not only a matter of the size they perform activities but also the level of cost of intermediation they incur and their healthiness while undertaking their activities. Therefore, full picture of financial development obtained by examining the efficiency and healthiness of the financial intermediaries along with their size.

Interest rate spread is a most often used measure of efficiency of the financial intermediaries. The soundness of intermediaries measured through the ratio of capital to risk weighted assets, ratio of non-performing loan to total outstanding loan and liquidity ratio.

3. Result and Discussion

3.1. Financial Structure and Regulation of Ethiopian Banking Sector.

Ethiopian financial system consists of the following: (1) National Bank of Ethiopia, which is a regulatory body of the financial institutions as a whole, (2) three state owned and sixteen private owned banks, (3) one state owned and fifteen private owned insurance companies, (4) thirty-one microfinance institutions and (5) 2,833 small saving and credit unions and cooperatives. Ethiopian financial industry is one of the investment area allowed only to Ethiopian citizen or companies owned by Ethiopians. But the maximum amount a person can hold either on his own or jointly with his spouse or with a person who is below the age of 18 related to him by consanguinity to the first degree not to be more than 5 percent of a bank's total shares. In addition to this restriction, if a person is an influential shareholder of any bank, he may not acquire shares in other bank as declared under sub-article 4 of article 11 of proclamation no. 592/2008. This proclamation is more restrictive than the 25, 20 and 49 percent allowed in Kenya, Tanzania and Uganda respectively.

To open new bank, general insurance company and microfinance institution the minimum capital requirement to be paid is Birr 500 million, Birr 3 million and Birr 2 million respectively. The new insurer who need to operate as life insurance only required to pay Birr 4 million as initial paid up capital and if it licensed to operate both life and general insurance services the insurer expected to pay Birr 7 million initial paid up capital.

In addition to this safety measurement the NBE set restriction on financial institutions asset holding. For instance, they can acquire to a maximum of 20 percent of non-financial firms voting shares, while banks operating in Kenya, Tanzania and Uganda can own 100 percent of non-financial firm's equity. In addition, banks operating in Ethiopia not allowed to engage in real estate activities for their own account while Tanzania and Kenya allow their bank to undertake this activity. Moreover, as survey result of World Bank (2012) showed Ethiopia's banks do not involve in investment activities which include investment advice and fund management, venture capital activities, securitization, certain activities associated with mergers and acquisitions, helping clients issue debt or equities either in their office or subsidiaries, or another part of a common holding company or parent.

Since 2011 the Ethiopian private owned and state owned Construction and Business Bank ordered to allocate 27 percent of their newly loan disbursement to purchase NBE's bills. Surprisingly, these bills mature after 5 years and pay interest rate of 3 percent which is less than the minimum interest rate banks must pay to saving and time deposit account holders. These bills in addition to creating credit rationing, they have a potential of creating maturity mismatches as banks that mobilized saving and time deposit for period of one year to three years required to wait five years to get back cash they invested in bills. Besides these bills commercial banks in Ethiopia obliged to have a loan portfolio that consists of 40 and 60 percent short term and long term loans respectively.

To keep the healthiness of the banking system NBE requires each bank to hold a core capital, legal reserve account, enough liquid assets and lower nonperforming loan. The tier 1 capital of Ethiopian bank consists of issued and fully paid shares, legal reserve account and other reserves to be approved by the NBE. The minimum balance of this capital each bank should hold equal to 8 percent of risk weighted assets. During June 30, 2014 the ratio of regulatory capital to risk weighted assets was 17.4 percent, which was more than double of the minimum capital adequacy ratio each bank required to hold. This indicate the capacity of banks to absorb loss without disruption of their operation.

Legal reserve account is the element of tier 1 capital. As per directive no. SBB/4/95 every bank shall transfer annually 25 percent of its annual net profit to its legal reserve account until such account equals its capital. When the legal reserve account equals the capital of the bank, the amount transferred to the legal reserve account shall be 10 percent of the annual net profit. On June 30, 2014 the legal reserves account balance made up 18 percent of the total capital. In addition to, these requirement according to directives no. SBB/57/2014 any licensed commercial bank shall maintain liquid assets of not less than 15 percent of its net current liabilities. Accordingly, on June 30, 2014 the ratio of liquid assets to short term liabilities was 21.5 percent.

The other indicator of financial soundness of the bank is the probability of its loan recoverability. This represented by the ratio of nonperforming loan to gross loan. Generally, Ethiopian banking sector's ratio of nonperforming loan to gross loans has declined during 2014 to a level of 2 percent from 6.8 percent of 2008. In addition to this precaution the National Bank of Ethiopia limit the credit exposure of banks to a single party. According to directive no. SBB/53/2012, the aggregate sum of loans or advances extended or permitted to be outstanding directly or indirectly by a commercial bank to

- any one person, who is not related to the commercial bank, shall at no time exceed 25 percent of the total capital of the commercial bank.
- One related party at any one time shall not exceed 15 percent of the total capital of the commercial bank.
- All related parties at any one time shall not exceed 35 percent of the total capital of the commercial bank.

However, the disclosure of information like capital adequacy ratio, off balance sheet items, governance and risk management framework, transactions with related parties and scope of consolidation are not reported to the general public. In contrast to information hidden by Ethiopian banks, banks operated in Kenya, Tanzania and Uganda (transaction with related parties not reported in Uganda to the public) disclosed this information to the public.

3.2. Accessibility of Banks

On June 30, 2014 the Ethiopian banking sector excluding NBE had a total asset and capital of Birr 411.769 and 26.509 billion respectively. From these the share of private banks were 30 and 59.81 percent respectively. Both state owned and private owned banks have 2,208 branches on June 30, 2014. Of this private banks shared 54.57 percent. Individually CBE shared 58, 34.12 and 38.79 percent of banking sector assets, capital and branches respectively. Regional distribution of these branches were uneven. The number of branches in Addis Ababa, Oromia and Amhara together make up 75.7 percent of total banks' branches on June 30, 2014. However, the demographic and geographic penetration of banks' branches was more in Addis Ababa, Dire Dawa and Harari. In Addis Ababa a bank branch is found in a distance less than one third of kilometer, and in Dire Dawa and Harari there is more than one bank branch within 100km2 during June 30, 2014. During the same year there was 42.6, 16.8 and 12 branches per 100,000 populations in Addis Ababa, Dire Dawa and Harari respectively, while others averagely have 3 branches for 100,000 populations. Generally, during the same year under discussion the national bank branch to population ratio was 1: 39,402 people.

3.3. Cost of Financial intermediation

The primary function of financial intermediary is channeling of funds from surplus area to deficit area. In undertaking this function it incur cost called cost of financial intermediation. The difference between the interest rate the intermediary charged its borrowers and paid to loanable fund provider is most used measurement of cost of financial intermediation. Averagely the value of this measurement for Ethiopia is less than East African countries like Kenya, Uganda and Djibouti as reported in Table 1. But it has been six times the value of Japan's developed financial system has earned. Thus, Ethiopian financial intermediaries are more efficient than other East African countries but far away from most efficient financial intermediaries of Japan.

Table 1: Interest Rate Spread by Country

Countries/year	2011	2012	2013	2014	Average
Djibouti	9.7	9.7	9.9	11.5	10.2
Ethiopia	6.39	6.33	6.22	6.22	6.29
Japan	1	0.9	0.8	0.8	0.875
Kenya	9.4	8.2	8.7	8.1	8.6
Tanzania	8.2	5.9	6	6.4	6.625
Uganda	8.8	10.1	11.4	10.7	10.25

Source: World Bank and NBE Annual Report (2014)

3.4. Breadth of the Banking Sector

Ethiopian financial system characterized by the dominancy of deposit taking financial institutions. They are the only formal source of investment funds for large and small private sector projects as there is no financial market in which new and old enterprises can generate cash. Currently, this service is given by 18 commercial banks and a developmental bank. Though, their number has increased by higher percentage, still Ethiopia is characterized by less than 10 percent ratio of gross saving to GDP, less than 20 percent of ratio of domestic credit to private sector divided by GDP, less than 20 percent ratio of banks liquid liabilities to GDP and commercial banks assets to GDP was not more than 50 percent.

From these eighteen commercial banks Commercial Bank of Ethiopia alone made up of 64.82 percent of their total assets on June 30. 2014. Together with the other two state owned banks it shared 70 percent of the banking sector's total assets (excluding NBE). This is the indication of high concentration of banking business toward state owned banks particularly of CBE and DBE. They are the only banks that have total assets of more than Birr 25 billion on June 30, 2014 as reported in Table 2. Surprisingly the total assets of 11 private banks together make up only 10.28 percent of the total banking sector assets.

Table 2: June 30, 2014 Banks' Size Distribution (including DBE and excluding NBE)

Assets (in billions)	Number of Banks	Share of Assets Held (in %)
Greater than 25	2	68.01
15-25	2	10.68
10-15	4	11.03
5-10	3	5.39
Less than 5	8	4.89
Total	19	100

Source: Own Compilation

3.5. Concentration of the Banking Sector

In this section the three and five largest banks concentration in the banking sector, credit market and deposit mobilization were discussed. Table 3 illustrates the market concentration of the banking sector during the period 2008 to 2014. In general, CR and HHI show a trend of slight increase. Concentration ratio of the three or five largest banks has higher average value for the period covered in Table 3, though the HHI is far away from unit. The contradictory result in these two measurements is due to a relatively lower asset ratio, which is less than 10 percent, for each of the 18 banks. For instance, the average of the sum of the square of this bank's asset ratio for the period under discussion was 0.021, which is near to zero. Even if these happen the average value of HHI shown in the table is much far away from the HHI (0.053) for hypothetical market that consists of nineteen equally-sized firms. In addition to this, what indicated by concentration ratio of the three and five largest commercial banks on June 30, 2014 were 71.9 and 81.3 percent respectively. Generally, the concentration ratio indicates the existence of highly concentrated banking system, which dominated by state banks.

Table 3: Concentration of the Ethiopian Banking Sector (total assets, excluding NBE)

End of June	2008	2009	2010	2011	2012	2013	2014	Average
CR3	0.729	0.706	0.694	0.726	0.711	0.732	0.734	0.719
CR5	0.833	0.816	0.805	0.819	0.785	0.816	0.816	0.813
CR of state banks	0.667	0.663	0.627	0.669	0.670	0.697	0.701	0.666
HHI	0.354	0.328	0.314	0.358	0.337	0.356	0.366	0.345

Source: Own Computation

Table 4 shows concentration of the three and five largest banks in the credit market during 2008 to 2014. As reported in the table Ethiopian banks concentration in credit market was relatively lower than their concentration measured in terms of total assets. The three and five largest banks' disbursement on average make up 65.7 and 77.7 percent of the total sector's average disbursement made during 2008 to 2014. The share of the three state owned banks during 2014 raised to 64.9 percent relatively to their preceding year share. Two of the state owned banks are from the three largest loan supplier. Individually state owned Commercial Bank of Ethiopia alone share annual average of 48.1 percent during 2008 to 2014 and during 2014 it has disbursed more than 50 percent. In addition to the concertation ratio, the HHI shows highest concentration of the banking sector in the credit market. Its average value for the seven years was 0.267.

Table 4: Concentration of the Ethiopian Banking Industry (Total Disbursed Loans, excluding NBE)

End of June	2008	2009	2010	2011	2012	2013	2014	Average
CR3	0.709	0.637	0.567	0.621	0.715	0.659	0.691	0.657
CR5	0.837	0.779	0.724	0.744	0.805	0.767	0.782	0.777
CR of state banks	0.567	0.502	0.482	0.520	0.659	0.613	0.649	0.570
HHI	0.310	0.230	0.183	0.216	0.344	0.280	0.309	0.267

Source: Own Calculation

Table 5 shows the level of concentration of banks in deposits mobilization for the period 2008 – 2014. It was observed that the concentration of banks in deposit market was higher than their concentration in terms of size and credit market. The three and five largest banks mobilized averagely during this period 77.5 and 83.8 percent of total amount of deposit respectively. Due to their widely dispersed branches, state owned banks have mobilized averagely 65 percent of total deposit made in the banking sector (excluding National Bank of Ethiopia) during 2008-2014. Besides this the HHI show higher concentration of the banking industry in deposit mobilization. Though the private banks as their counterpart (state owned banks) have opened branches aggressively, they mobilized less than 40 percent of deposit. Government banks in addition to their branch network, government employee payroll paid through them and saving for housing made with them enhance their resource mobilization activities.

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CR of state banks	0.567	0.502	0.482	0.520	0.659	0.613	0.649	0.570
HHI	0.310	0.230	0.183	0.216	0.344	0.280	0.309	0.267

Source: Own Calculation

4. Conclusion

Financial development is a general term used to represent a positive change observed in efficient, widely accessible and greater in size delivery of financial services to various economic agents. In other words, it is about looking at financial system from various angles like its size, accessibility, efficiency and structure. When we look at Ethiopian financial system from these points it is made up of financial intermediaries dominated by deposit taking financial institutions. The activities of these institutions are monitored and supervised by National Bank of Ethiopia. The rules and regulations used by this governing body are more restrictive than what its correspondent in neighboring countries used. Consequently, the soundness of the country's banking sector was preserved.

In addition to, the regulatory environment in which financial intermediaries operate the incomparability in financial position and branch network exist in the banking sector make the industry uncompetitive. In Ethiopia one state owned bank alone represent commercial banking sector by more than fifty percent in many aspects of banking development like in financial position, branch network, loan disbursement and deposit mobilization. Consequently, the interest rate policy other banks apply is the reflection of this giant bank's policy.

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