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*Research Paper*

## An Analytical Approach to Measure the Dissimilation of Private Banking Sector in Bangladesh

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### Abstract

*Banking sector play an important role to uphold the industrial as well as business activity of region. It generates national capitals, increase productivity, provide financial support to the people and overall accrete the economic growth of a country. During the period of 1972 to 1982, expansion of banking activity was in favour of rural areas where bank operate under a regime of rigid government control and central bank regulations. After that, Govt. focus on decentralization and privatization of banks. Thus, private financial institution started to establish throughout the country. The study considers the no of private financial institution as an indicator of economic growth of a district, where private financial institution includes number of private commercial bank branch, number of foreign bank branch and insurance company. The aim of the study is to measure the dissimilation of private banking sector in Bangladesh using Lorenz curve and Gini index. There is significant inequality in case of private commercial banks distribution, whereas inequality of foreign banks is absurd. But compare to private commercial banks and foreign bank, the distribution of insurance company throughout is quite good. In case of private commercial bank Gini index is 79.53% and insurance company represent a value of 26.50%. Finally, the study recognizes the backward districts needs more attention to gear up its economic growth. Further to the study, will help to guide regional planning to reduce overall dissimilation of private banking sector throughout the country.*

### Keywords

*Private banking sector, Inequalities, Lorenz curve, Gini Index*

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## 1. Introduction

The expansion Banking is an important sector that plays a great role in the economy of Bangladesh. The financial establishment of Bangladesh is mixed one that comprises of nationalized bank, private bank, commercial bank, foreign bank, specialized bank and insurance company (Dias, 2019). These all are engaged to motivate the economic growth of Bangladesh. Commercial bank dominates the financial sector of Bangladesh (Khatun, 2018). Its help to increase in capital formation of the national economy. This bank provide capital, technical assistance etc. to the businessman according to their need which tends to trade development and foreign trade also. It provides transfer of money which tends to economic growth. It increases the production capabilities of the economy by reinforcing capital

formation and labour division. It also provides development of transport, assistance to govt., increase in employment, and increase in savings. It provides long, medium and short-term loan in agriculture to farmers (Money Matters, 2013). This study comprises commercial bank, insurance company and foreign bank as private commercial bank. One thing is that, the govt. bank has the liability to establish equally across the country to serve its nation equally. It's one kind of responsibility of govt. to support its people by providing financial facilities whereas the private banks are profit motive and do good to the economy. So, it also necessary establish its function across the country (Rouf, n.d.). That's why the private commercial bank is being selected to find out its distribution distinction. Insurance company served Bangladesh economy by increasing national capital, reducing hindrance and risk, providing financial support to the people, promote economic growth as well as play vital role in the industrial development of Bangladesh.

As commercial banks are of a great association for stabilizing of country's economy so it is essential to identify the distribution of these bank all over the country to know how it serves its clients and is it sufficient for them (Rouf, n.d.). All the data are inputted from the Bangladesh Bureau of Statistics (BBS) 2011 and the study topic is selected based on the data availability in the BBS 2011.

This study objective is to measure the unequal distribution of commercial bank against the government bank across the country. This study will help to find out the backward regions which lag behind the sufficient commercial bank. It will help for further research of equal distribution of commercial bank and related studies.

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## 2. Literature Review

According to Z. Xiaobo and K. Ravi in the study "Which Regional Inequality? The Evolution of Rural-Urban and Inland-Coastal Inequality in China from 1983 to 1995" include that, in China, assessment of the evolution of the relative contributions of rural-urban and inland-coastal gaps to overall regional inequality is based on a decomposition methodology and generalized entropy. Thus Hu Angang (1996) warned that further increases in regional inconsistencies may lead to China's dissolution. Former Yugoslavia Xue (1997, p. 46) noted that further expansions of the differences may generate serious social and political problems, generate nationalist conflicts and negatively influence China's economic and social stability. Its main conclusion is that the greater affluence of rural-to-urban migration within countryside, compared to the institutional and other difficulties of migrating from inland to coastal countryside, provides a partial explanation for this phenomenon.

In the study "Rawls' fairness, income distribution and alarming level of Gini coefficient" (2017) authors showed that, small number of Gini index help to make peaceful world but radical changes due to instability makes alarming level of Gini index. Next they calculate the alarming levels from three years that is, 1995, 2000, and 2005, using statistical decision theory. The findings suggest that the alarming levels are larger than 0.5. Again, Gini coefficients of year 1990 no longer follow normal distribution at the 5% significance level. The alarming level they proposed only for the free market system, which ensures the free competition and equal opportunity.

Another study “INEQUALITIES FOR THE GINI COEFFICIENT OF COMPOSITE POPULATIONS” includes the income inequality calculation through Gini coefficient and its different types of situation when and how to use Gini coefficient in different situations (Zagier, 1982).

### 3. Methodology

To conduct the study total bank and total commercial bank of Bangladesh is being selected that total bank is stood in X axis and total commercial bank is stood in Y axis. Dissimilation in banking sector is measured through Lorenz curve and Gini coefficient.

The Lorenz curve is a graphical illustration that represents any type of distributional inequality. This can be used for showing any kind of unequal distribution of assets, income or related. This paper use Lorenz curve for showing unequal distribution of Bangladesh banking sectors (Inequality Measures, 2018). For this purpose, graph includes cumulative percentage of total commercial bank against cumulative percentage of corresponding total bank (ranked in increasing size). To the magnitude that drop below the straight diagonal line designated the extent of unequal distribution of commercial bank in Bangladesh banking sector.

The Gini coefficient is another comprehensive measure that uses Lorenz curve for its calculation. It is the most commonly used for measurement of unequal distribution. The Gini coefficient is a number between 0 and 1, where 0 resembles to perfect equality and 1 resembles to perfect inequality. It is expressed in percentage form, and is equal to the Gini coefficient multiplied by 100. It is implied that the Gini coefficient of one country is 0.4 means that may confront the risk of overall social instability.

To order up the cumulative value of total bank and total private commercial bank Locational Quotient is being used. Locational Quotient is the ratio of total number of private commercial banks (Y) and total banks (X). That is,

$$\text{Locational Quotient (LQ)} = \frac{\text{total commercial banks (Y)}}{\text{total banks (X)}}$$

This is why to descending arrangement of X and Y value for formulation of Lorenz curve.

In this study, the calculation of Gini coefficient is shown below:

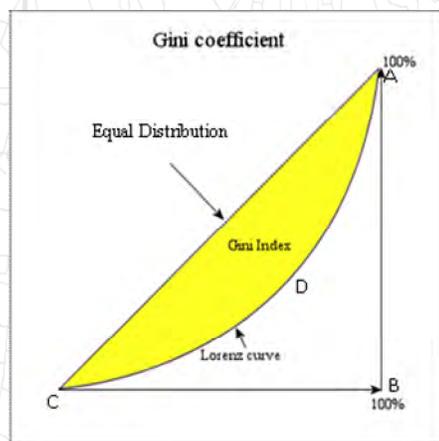


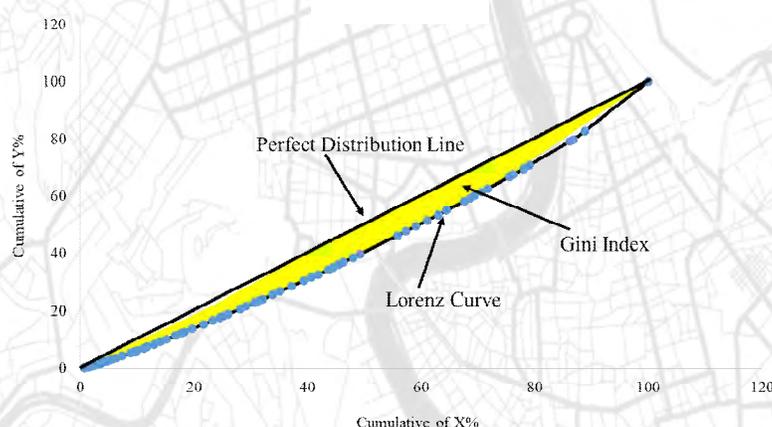
Figure 1 Gini coefficient and Lorenz curve

$$\text{Gini coefficient} = \frac{\text{Area of ABC} - \text{Area of ACD}}{\text{Area of ABC}}$$

That means, the area of ACD that is yellow colour in figure is deducted from the area of ABC, then it is divided by the Area of ABC. Hence, Value of Gini index is being bring about.

#### 4. Result and Discussion

With the common data set, four different Gini co-efficient has been calculated to understand the dissimilation of banking sector in Bangladesh. First of all, we consider the overall inequality in banking sector for 64 districts.



**Figure 2 Gini Coefficient based on Lorenz curve**

The above figure represents the Lorenz curve, where X is the sum of total no. of nationalized bank branch, total no. of private bank branch, total no of specialized and other co-operative bank, total no. insurance company, total no of foreign bank; Y is the sum of total private commercial bank branch, total no. of insurance company and total no. of foreign bank. The area between perfect distribution line and Lorenz curve represent the overall inequality. Gini-coefficient index has been calculated according to the below figure at 8th interval.

$$\begin{aligned} \text{Gini coefficient} &= \frac{\text{Area of ABC} - \text{Area of ACD}}{\text{Area of ABC}} \\ &= (5000-4342.824)/5000 \\ &= 0.1315 \\ &= 13.15\% \end{aligned}$$

The extent of Gini index is 13.15% that's mean, the inequality of private commercial banking sector in respect with total banking and insurance establishment is 13.15%.

Lorenz curve shows that, Gopalganj district is the lowest in position for private bank establishment whereas Bogra is in the highest. The distinction may be from different sectors. From the BBS 2011 it is found that, total number of private bank in Gopalganj is 19 and in Bogra is 1551. It clarifies more financial and economic activity, more development in Bogra than Gopalganj. In Bogra, total bank, insurance and financial institution establishment is 590,

real estate and renting establishment is 1617, public administration and defence establishment is 545, manufacturing establishment is 17479 whereas in Gopalganj 213, 190, 162, 2784 respectively (BBS 2011). It solely explains the strong dissimilation between these two districts. Hence, Bogra becoming the higher in position than Gopalganj.

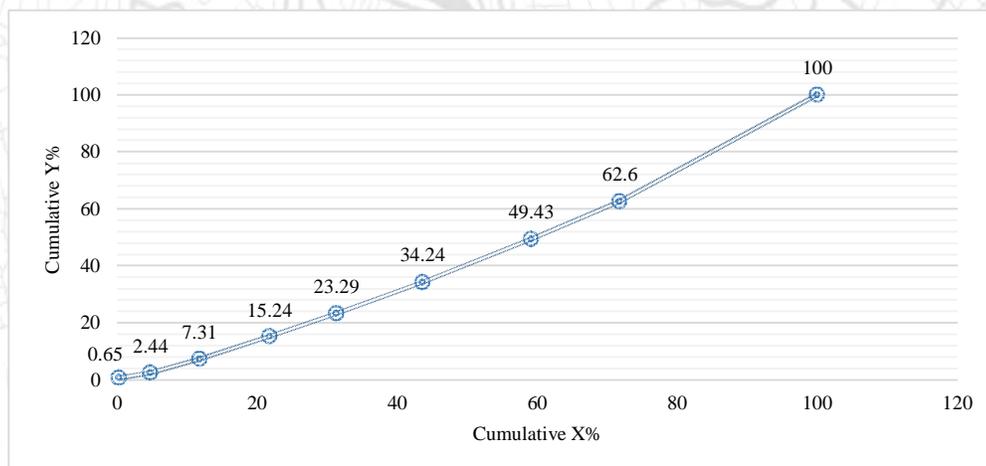


Figure 3 Lorenz Curve by 8<sup>th</sup> Interval for Area Calculation

13.15% inequality in banking sector can be described by the asset distribution chart stated below.

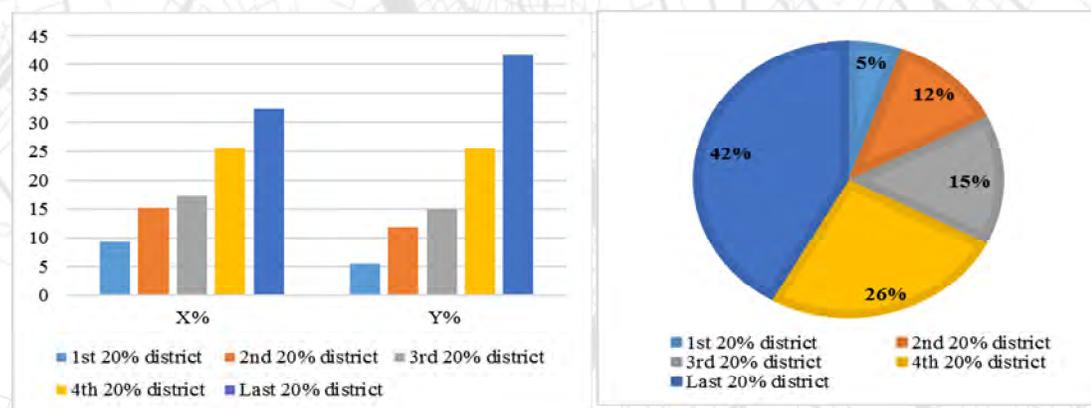


Figure 4 Percentage of Asset Distribution by districts

In this chart, the districts are categorizing into five class according to the locational quotient i.e., Y/X, listed in a descending ordered. First 20% district explain only 9.36% of the total bank and insurance establishment, whereas last thirteen district describes majority of the asset i.e., 32.37% of X. The commercial banking activity is higher as well.

Table 1 Asset distribution of Districts

Class	District
1st 20% district	Gopalganj, Rangamati, Khagrachari, Narail, Bandarban, Natore, Barguna, Chuadanga, Netrokona, Panchagarh, Patuakhali, Rajshahi, Meherpur

2 <sup>nd</sup> 20% district	Sherpur, Bagerhat, Magura, Satkhira, Sunamganj, Gazipur, Jessore, Pirojpur, Rajbari, Faridpur, Mymensingh, Pabna, Sirajganj
<b>Class</b>	<b>District</b>
3 <sup>rd</sup> 20% district	Jhenaidah, Kurigram, Barisal, Bhola, Narayanganj, Chapai Nawabganj, Thakurgaon, Khulna, Habiganj, Dinajpur, Tangail, Munshiganj, Gaibandha
4 <sup>th</sup> 20% district	Chandpur, Madaripur, Nilphamary, Lalmonirhar, Naogaon, Kishoreganj, Dhaka, Moulvibazar, Rangpur, Noakhali, Brahmanbaria, Narsingdi, Sylhet
Last 20% district	Feni, Jhalakati, Kustia, Lakshmpur, Comilla, Shariatpur, Jamalpur, Cox's bazar, Chittagong, Joypurhat, Manikganj, Bogra

The difference of X% between 4th and 5th 20% district is only 7%, whereas the difference of Y% between 4th and 5th 20% district is 16%. Hence, the commercial activity of Feni, Jhalokati, Kustia, Lakshipur, Comilla, Shariatpur, Jamalpur, Cox's Bazar, Chittagong, Joypurhat, Manikganj, Bogra is significant. The higher no. of bank branches is an indicator of higher economic activity on the contrary the higher number of NGOs in a region is a representation of pro-poor condition. In Sirajganj district, no of NGOs is maximum that is the highest mainly because of river erosion and vulnerable condition of poor people thus lower contribution in banking sector.

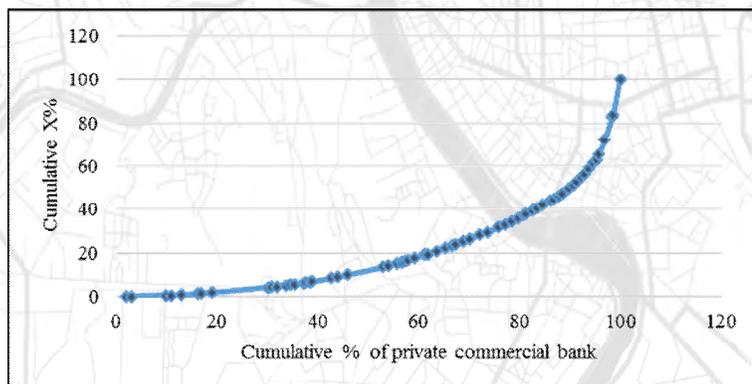


Figure 5 Lorenz curve for Private Commercial Bank

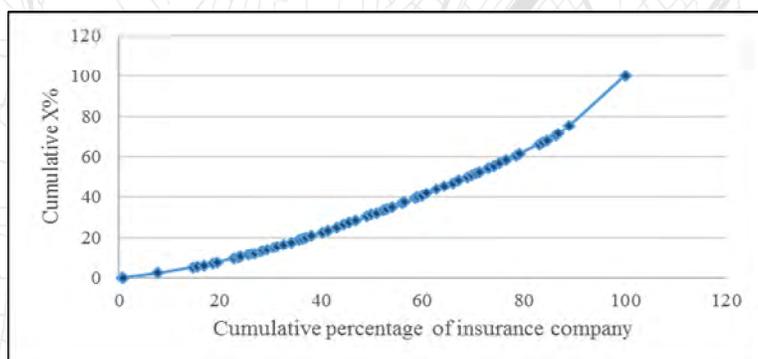


Figure 6 Lorenz curve for Insurance Company

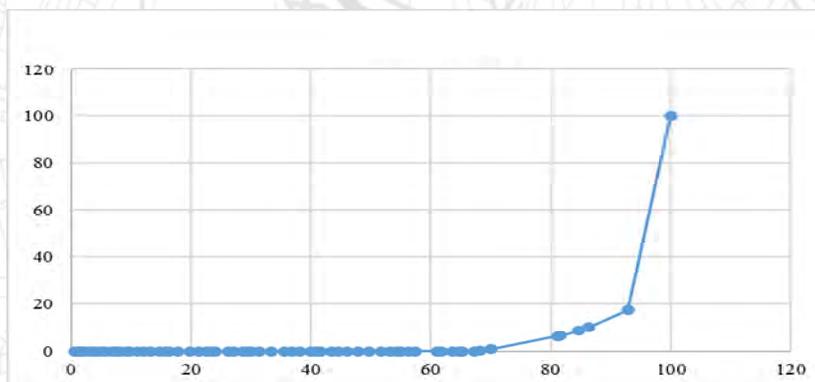


Figure 7 Lorenz curve for Foreign bank

From the above figures, its clearly encountered that, more unequal distribution is in foreign bank, then in private commercial bank and then in insurance company. The overall Gini coefficient is 13% whereas private commercial is 79.53%, insurance company is 26.5% and foreign bank is nearly 100%. It stated that, more attention is needed in private commercial bank to develop national economy. Again, foreign bank that is another type of bank established in only the divisional district e.g., Dhaka, Sylhet, Chittagong, Rajshahi, Bogra, Khulna as foreign transaction is so frequent here. But more attention is needed in other district to gear up its economic activity for example Coxsbazar, Mymensingh etc. In the figure 4.7 shows the inequality of private commercial bank individually.

Table 2 Gini Index of Financial Institutions

Gini Index	Percentage
Private Commercial bank, Y1	79.53%
Insurance Company, Y2	26.50%
Foreign Bank, Y3	99.97%

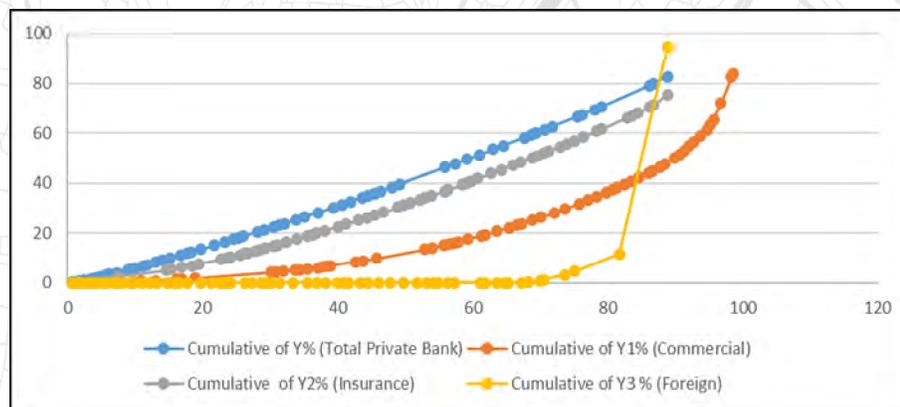


Figure 8 Comparison among Private Commercial Banks

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## 5. Conclusion

The study deals with the dissimilation of banking sectors of Bangladesh. This study uses the Lorenz curve and Gini coefficient to find out the inequality of commercial bank of Bangladesh. The overall Gini coefficient is 13.15%. The commercial bank includes private commercial bank, insurance company and foreign bank. Private commercial banks contribution is the highest then the insurance company. If the locational quotient is arranging descending, then it will be found that last 40% district hold the maximum assets and that is 68%. Bogra being the top and Gopalganj being the bottom in position. More attention is needed to the lower positional districts to develop the growth and service facilities throughout the country.

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