Forecasts of Future Profitability based on Disaggregated Earnings: A Comparative Analysis of Islamic and Conventional Banks

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Abstract

Banks are the financial institutions accepting deposits from the people and lending to the needy people, areas and regions for various purposes. Banking industry can be divided into two types of banks—Islamic and conventional banks. The operations of conventional banks are based on interest (sood/riba) and therefore interest constitutes the main source of earnings of these banks. While on the other hand, Islamic banks are interest-free financial institutions in which interest is strictly prohibited. They work on the principle of profit and loss sharing instead of interest therefore do not guarantee any fixed rate of return on deposits. Earnings of the banks is actually the aggregation of different components and analysts make their analysis on the basis of these earnings. The objective of the paper is to find out that whether aggregated or disaggregated earnings is more informative to predict future earnings in these two types of banks. The study confirms that disaggregated earnings is more informative for Islamic banks and less informative for conventional banks during the period from 2007 to 2012 in Pakistan.

Keywords: Disaggregated Earnings, Markup Income, Non-Markup Income

Introduction

Banks are financial institutions which accept money in the form of deposits. Most of the people deposit their money in banks due to fixed income. Two types of banks are working at present time all over the world, one is conventional banks which work on the basis of interest (*Riba/Sood*) and risk transferring and the other one is Islamic financial institutions. At present, twenty nine conventional banks are operating in Pakistan out of which five are public sector banks, seventeen are private banks and seven are foreign banks. As interest is prohibited in Islam so majority of the Muslim people do not go for conventional banks. The first Islamic bank started its operations in 1975 in Egypt and with the passage of time other Islamic banks started operations in different

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countries of the world. In Pakistan, Meezan bank is the largest full-fledged Islamic bank, inaugurated in 2002. Five full-fledged Islamic banks are now operating in Pakistan.

Income of a bank is the aggregation of different components. Analysts and researchers usually make use of aggregated data for various empirical and statistical analyses. The use of these aggregated data can, however, result in deceptive inferences regarding the economic behavior of individual component (Garrett, 2002). Therefore, various studies have conducted their analysis on the basis of disaggregated data and concluded that disaggregated earnings are more informative than aggregated earnings to predict future profitability and earnings. This study replicate the studies by Ohlson and Peng (2006), Esplin *et al.,* (2009) and especially Alam and Brown (2006) to investigate that whether disaggregated earnings of the banking industry predict the future earnings. We follow the methodology adopted in these studies to find out the impact of disaggregated earnings on the future profitability of Islamic banking in Pakistan. The study is so conducted to compare the disaggregated earning of Islamic and conventional banks and to find that which banking stream of earning is more informative to predict future earnings. For this purpose, earning is disaggregated into various components like Markup income (MI), Markup expense (ME), provision against non performing financing (PNPF), income from fee, commissions and brokerage (FCBI), dividend income (DI), income from dealing in foreign currency (IFC), gain and loss on security transactions (GLST), other income (OTHI), and administrative expenses (AE). A sample of nineteen conventional and five Islamic banks are selected. The objective of the research is to find out that whether disaggregated earning is more informative to predict future earning or not and to compare Islamic and conventional banks with the help of disaggregated earnings to find out which banking stream of earnings is more informative to predict future earnings.

Literature Review

Many studies have been conducted to compare Islamic and conventional banking system all over the world. Usman and khan (2012) compared the profitability and liquidity of Islamic and conventional banks of Pakistan by using financial ratios from 2007 to 2009. Their study indicates that as Islamic banks rely more on equity, therefore, they are better in liquidity but profitability of conventional banks is better than Islamic banks in the year 2007. But in 2008 and 2009, Islamic banks performed better than conventional banks due to recession and financial crisis in the world. Samad (2004) did make a comparison between Islamic and conventional banks of Bahrain with the help of profitability, liquidity and credit risk

by using financial ratios. Data from six Islamic and fifteen conventional banks have been used from 1991 to 2001. The results show that both banking streams are alike on the basis of profitability and liquidity; however, due to large equity per capita Islamic banks are better than conventional banks.

Another important study by Moin (2008) find out that profitability and liquidity have no significant differences while risk and solvency ratio show that the riskiness of conventional banks is more and solvency is less than Islamic banks in Pakistan during 2003-07 predicting that Islamic banks are less efficient than conventional banks. Likewise, Akhtar *et al*., (2011) also conducted a study to compare the performance and efficiency of Islamic banks of Pakistan with national and private conventional banks by selecting one bank from each category for the period 2006 to 2010. The study find out that the profitability performance based on return on assets (ROA) and income generated per dollar of Islamic bank is in between national and private conventional banks but returns on equity (ROE) of conventional bank are better than Islamic bank, while the cost to income ratio of the banks favors the private bank. The credit risk performance of the Islamic bank is better than conventional bank in terms of common equity to total asset ratio and total equity to net loan, while conventional bank performed better for impaired loan to gross loan than Islamic bank.

A more recent study by Jaffar and Manarvi (2011) compared Islamic and conventional banks of Pakistan by taking five Islamic banks and five conventional banks for the period 2005-2009 and analyzed it by using CAMELS test. [1] In capital adequacy, Islamic banks are better than conventional banks because debt to equity ratio of Islamic banks are less than conventional banks and capital to risk asset ratio of Islamic banks are much higher than conventional banks mean that Islamic banks have much more capital to compensate any loses. Management quality is checked with the help of operating expenses and cost per money lent ratio. According to results, both the ratios of Islamic banks are higher than the conventional banks which show that the quality management of conventional banks is better than Islamic banks. To calculate the earnings ability, ROA and ROE is used and results show that conventional banks perform better for earning ability while the liquidity of Islamic banks is better than conventional banks.

Hanif *et al.,* (2012) conducted a study to find out the profitability, liquidity, credit risk, solvency and customer satisfaction of Islamic and conventional banks of Pakistan. The study used financial ratios to measure profitability, liquidity, credit risk and solvency and also to measure customer satisfaction. Data is collected from customers of these banking streams for the period 2005 to 2009. Data collected from

22 conventional banks and five Islamic banks. The result shows that in terms of profitability and liquidity, conventional banks are dominating while Islamic banks are dominating in terms of credit risk and solvency. Customers' satisfaction level of both banking streams has no significant differences. Kablan and Yousfi (2011) studied the efficiency of conventional and Islamic banks with the help of stochastic frontier analysis. Data were collected from 340 banks of the banking industry of 17 country from Asia, Middle East, Africa, and United Kingdom for the period 2001 to 2008. The results show that conventional banks have higher efficiency. Shahid *et al*., (2010) used data envelopment analysis (DEA) to measure the efficiency of Islamic and conventional banks of Pakistan by taking five Islamic and five conventional banks for the period of 2004 to 2008. The input used for the study are deposit and capital while output are portfolio investment, loans and deposits. The results show that technical efficiency of conventional banks is better than Islamic banks while Islamic banks performed better in terms of cost efficiency.

Disaggregation of earnings is actually a decomposition of earnings into different components. Different studies suggest that disaggregated earning is more informative to predict future earnings. Jaggi and Zhao (2002) collected data from 66 US commercial banks and wanted to compare the pre and post-implementation of SFAS No 115 in US commercial banks. The results of the study show that aggregate earnings and the association of returns on equity with earnings components is statistically significant in the post-adoption of SFAS No 115 period, suggesting that the earnings components are considered more relevant for investment decisions specifically after the adoption of SFAS No 115. The findings of the study also show that the revenue generated from the banking activities other than interest also play an important role in the profitability of the US commercial banks.

Alam and Brown (2006) disaggregated earnings of banking industry to find out future earnings. Data from 63 banks are used for the period of 1979 to 1996. Earnings are disaggregated into returns on equity (ROE), returns on equity before extra-ordinary items (ROEBEI), operating income (OPINC), net other income and income tax (NOPTAX), operating income before loan loss provision (OPINCBL), loan loss provision (LLOSS), interest income (INTINC), interest expense (INTEXP), other income (OTHERINC), other expenses (OTHEREXP), income tax (INCTAX), minority interest income (MINORITY), and extra-ordinary item net of tax (EXTRA). Components of earning are put simultaneously one by one in regression models. Study concludes that disaggregated earning is more informative than aggregated earning to predict future earnings. Apergis and Sorros (2010) estimated the

relationship of disaggregated earning and stock prices by taking 80 firms from shipping industry of five stock exchanges for the period of 2000-2008.Two regression models were used to find out the informative content of the earnings disaggregation. Earning is disaggregated into operating income and non-operating income. In one of the models, operating income is used while in the other one, non-operating income is used with book value to market value ratio (BV/MV) and price earnings ratio (PE). The result shows that the model with operating income has more information for expected stock return. A similar study has been conducted by Biesland (2011) for finding the impact of income variables on stock returns among some selected public companies in Norway using a multiple regression technique. The study shows that the value relevance as measured by the explanatory power of the regression analysis doubles if both the sign and disaggregation effect are incorporated into the statistical analysis. Esplin *et al.,* (2009) studied yearly data for the period of 1973 to 2006 to find out that disaggregation provide more information than aggregated earnings. Three regression models were used in the study. In the first model, the study used ROE model. The second model used operating and financing income (OPFIN) which disaggregate earnings in to return on net operating assets (RONA), net financial assets (NFA), average book value of equity (BVE), and return on net financial asset (RNFA). The third model used unusual and infrequent items (UNINFREQ) disaggregation model which decomposes earnings into returns on equity before unusual and infrequent items (ROEBUNIN) and unusual and infrequent items (UNINFREQ). The results show that the OPFIN gives a small or no improvement in the model while UNINFREQ model provides more information meaning that the UNINFREQ model is relatively more informative to forecast future earnings.

Arthur *et al.,* (2010) predicted future earning with the help of cash flow from operations (CFO) disaggregation. Yearly data from 1992 to 2005 from Australian firm were used. Regression model shows that disaggregated cash flow operation (CFO) has more information to predict future earnings and have less error. Chia and Loftus (1997) also found that disaggregated earnings give more information than aggregated earnings about stock return in Australian stock exchange.

Habib (2006) measured the future profitability by using industrial group in Japan. The study is conducted to know that disaggregation is more informative. Three regression models were used in the study. The results indicated that that the firms affiliated with industrial group have not significant difference by calculating profitability individually or within the group. The firms which are not associated with any group having more informative disaggregated

earnings. Esplin *et al.,* (2011) using operating and financing activity to predict future profitability by disaggregated the earnings into return on net operating asset (RONA), return on net financial asset (RNFA) and leverage (LEV). Regression model is used to analyze the data from 1972 to 2005 in order to find out that disaggregated or aggregated forecasting have accurate information to predict future profitability. The results show that disaggregation approach has more information as compared to aggregated approach/model to predict future profitability and moreover, the forecasting power of these models increases by growth and accounting conservatism. The study by Ohlson and Peng (2006) also confirms that when we decomposes earnings into various components such as net operating income, other revenues, and expenses, extra-ordinary items, operating cash flows, discretionary and non-discretionary accruals etc. enhances the explanatory power of the regression model.

Data and Methodology

The population of this study consists of all commercial conventional and Islamic banks of Pakistan. There are five Islamic and twenty nine conventional banks working in Pakistan. Out of twenty nine conventional and five Islamic banks, nineteen conventional and five Islamic banks are selected as sample for this research study by using random sampling. Those banks are included in the sample whose data are available for six years (2007-12). Due to non-availability of data, the sample is restricted to five Islamic and nineteen conventional banks. The study used six years secondary data from 2007 to 2012 which is collected from the financial statements of banks present in the sample.

Disaggregated earnings is more informative for the prediction of future earnings. Some empirical studies find out that disaggregated earnings is more informative than aggregated earning to predict future earning. This study follow the technique used by Fairfield, *et al.,* (1996) and Alam and Brown (2006) by using ROE regresion model to predict coming year ROE and to find out that dissaggregated earning increases the power of the model or not. The results of both banking streams are compared to find that which banking stream component is more informative in predicting future earnings.

Earnings are disaggregated into components like mark-up income (MI), mark-up expenses (ME), provision for non performing financing (PNPF), fee, commision and brokerage income (FCBI), dividend income (DI), income from dealing in foreign currency (IFC), gain and loss of security transactions (GLST), adminstrative expenses (AE), and other income (OTHI). Four regresion models were used to analyze the data, aggregated earning model, mark-up earning model, non mark-up earning model, and combined model. As components of earning

increases in the model, the model becomes more informative (Fairfield, *et al.*, 1996).

Returns on equity (ROE) has been taken as dependent variable throughout the models which is calculated by dividing net income after tax on shareholder's equity. The data related to net income and shareholders' equity is obtained from financial statements of the banks present in the sample from 2007 to 2012.

ROE is calculated with the help of the following formula:

$$ROE = \frac{\textbf{Income after tax}}{\textbf{Shareholders' Equity}}$$

Where

$ROE_{i,t}$ (return on equity of bank i at time t)

Income after tax: Net income is the measure of value added to shareholders' equity (Penman, 2008, p. 34). Simply the income which the banks get after deducting the tax from earnings is called net income or net income after tax. This is the most liquid form of income of a business and the common stock holders' dividends depends upon on the net income after taxes.

Shareholders' equity: Shareholders' equity is the amount of capital of commercial banks divided into small shares and the people who own these shares are known as shareholders. Collectively it is the difference between total assets of the bank and its total liabilities. Shareholders' equity is also known as share capital or stockholders' equity.

There are two main and important sources of shareholders' equity. The first source of this equity is actually the money that is invested by the group of people in the bank along with other investment made after the initial investment. The second source of this equity is the retained earnings obtained over a period of time by a bank through its profitable operations. Mostly this retained earnings contributes a larger portion of a bank's equity. The formula to calculate shareholders' equity is:

Shareholders' Equity = total assets of the bank – total liabilities of the bank

The following explanatory variables have been used in this study:

- Mark up income (MI): Mark up income is earning on investment usually made by Islamic banks in different modes of financing. It is also known as profit earned by these banks. While on the other

hand, conventional banks earn income from interest (sood). We obtained these incomes from the financial statements of the banks.

- Mark up expenses (ME): Mark up expense is the interest paid by the conventional banks to their fixed depositors and profit distributed among their depositors of Islamic banks. The figures have been taken from income statements of the banks present in the sample.
- Provision against non-performing financing (PNPF): Non performing loan is basically a sum of borrowed money on which the borrower or debtor is not making interest payment or repaying any principal amount of the loan taken. So, commercial banks normally have to keep aside money to cover potential losses on loans (loan loss provision) and write off bad debts in their profit and loss account. When there is an increase in the amount of provision for non-performing financing (PNPF), it signals good news for banks having some problems of risk while at the same time it signals bad news for sound and healthier banks (Liu, et al., 1997). The expected sign of the PNPF variable has usually found to be negative showing inverse relationship with the future earnings profitability of banks (Ahmad et al., 1999). Various studies have also used this provision as a proxy for the measurement of the efficiency of management of the banks.
- Fee, commission and brokerage income (FCBI): Fee earned on providing different facilities to customers while brokerage income is the income earned by a bank providing brokerage services to the clients. All these constitute earnings of the banks.
- Dividend income (DI): Dividends earned by the banks on investment in different financial instruments. These are the payments made by the bank to its shareholders.
- Income from dealing in foreign currency (IFC): Banks also provide facilities to foreigners to send money to Pakistan and abroad, and also deal with foreign banks so receive foreign currency and provide money exchange facility to people in Pakistan. IFC is income earned from differences in exchange rates.
- Administrative expenses (AE): All those expenses incurred on running the administration of a bank or a business.
- Other income (OTHI): Other components of income consist of income obtained from components other than shown in income statements. For example, in conventional banks it is the income

from sale of fixed assets, income from dealing in derivatives, rent on property and charges received from customers and so on. In Islamic banks some of the components are: gain on termination of *Ijarah* financing, gain on termination of diminishing *Musharakah* financing, gain on sale of equipment, property etc.

Specification of the Models

ROE Model

This model or equation 1 is used as a benchmark that shows the association of ROE_t using a simple independent variable, ROE_{t-1}. The results of the aggregated earnings model are compared with ROE model to find out that which banking stream of earnings is more informative to predict future ROE.

$$ROE_{i,t} = \beta_0 + \beta_1 ROE_{t-1} + \varepsilon_{i,t} \quad \ldots\ldots(1)$$

Where

$ROE_{i,t}$: Return on Equity at time t or current year.

ROE_{t-1}: Return on Equity of previous year.

While $\varepsilon_{i,t}$ is the error term.

Aggregate Earning Model

In this model we used only one independent variable which is net income (NI).

$$ROE_{i,t} = \beta_0 + \beta_1 NI_{i,t-1} + \varepsilon_i \quad \ldots\ldots(2)$$

Where

NI: Net income

Mark up Earning Model

This model contains three explanatory variables, markup income, markup expenses and provision for loan loss reserve or provision for non performing financing.

$$ROE_{i,t} = \beta_0 + \beta_1 MI_{i,t-1} + \beta_2 ME_{i,t-1} + \beta_3 PNPF_{i,t-1} + \varepsilon_i \quad \ldots\ldots(3)$$

Where

MI: Mark up income

ME: Mark up expense

PNPF: Provision for non-performing financing

Non markup Earning Model

$$ROE_{i,t} = \beta_0 + \beta_1 FCBI_{i,t-1} + \beta_2 DI_{i,t-1} + \beta_3 IFC_{i,t-1} + \beta_4 GLST_{i,t-1} + \beta_5 OTHI_{i,t-1} + \beta_6 AE_{i,t-1} + \varepsilon_i \ldots\ldots\ldots\ldots\ldots\ldots (4)$$

Where

FCBI: Fee, commission and brokerage income
IFC: income from dealing in foreign currency
DI: Dividend income
GLST: Gain and loss on security transactions
OTHI: Other income
AE: Administrative expenses

Combined model

$$ROE_{i,t} = \beta_0 + \beta_1 NI_{i,t-1} + \beta_2 MI_{i,t-1} + \beta_3 ME_{i,t-1} + \beta_4 PNPF_{i,t-1} + \beta_5 FCBI_{i,t-1} + \beta_6 DI_{i,t-1} + \beta_7 IFC_{i,t-1} + \beta_8 GLST_{i,t-1} + \beta_9 OTH_{i,t-1} + \beta_{10} AE_{i,t-1} + \varepsilon_i \ldots\ldots\ldots\ldots\ldots\ldots (5)$$

Results

Multiple regression analysis was used to analyze the data for the period 2007-2012 for identifying the influence of explanatory variables on dependent variable. In each model, the dependent variable remains the same i.e., ROE but different independent variables have been used for each of the above models.

Coefficient of determination (R^2) shows that how much change in dependent variable will be caused by independent variables in the model. It shows the strengths or weakness of the model. Its value lies between 0 and 1. If its value is less than 0.5 it is weak model if the value is more than 0.5 then the model is said to be strong. In this research R^2, will show that how much informative is independent variable to predict future ROE.

ROE Model

This model as already said is used as a bench mark for aggregated earning models. We compare the results of other aggregated and disaggregated earnings with it to find out whether R^2 shows any improvement or not. The dependent variable used in this model is ROE_t and independent variable is $ROE_{t-1.}$ Table-1 shows the regression results of model 1 for both Islamic and conventional banks.

Table-1: Regression results of equation 1 for Islamic and conventional banks

	Islamic Banks			Conventional Banks		
Variable	Coefficient	Std. Error	t-statistic	Coefficient	Std. Error	t-Statistic
C	0.0129	0.0164	0.788	-0.146	0.167	-0.885
ROE_t	0.749*	0.189	3.961	0.0597	0.104**	2.574
R^2	0. 416			0.0357		
Adj R^2	0.389			0.0072		
F value	34.491			30.231		
Prob > F	0.0001			0.0001		

*significant at 1 percent level of significance, **significant at 5 percent level of significance and ***significant at 10 percent level of significance.

The results show that the value of R^2 for Islamic banks is 41.6 percent as shown in table-1. It means that the regression line explains only 41.6 percent of the total variations of the dependent variable ROE_t by the explanatory variable ROE_{t-1}, so we can say that the model is weak. While for conventional banks; the value of R^2 is 3.57 percent indicating that the model is even weaker than the Islamic banks. So, we conclude that if we use previous year ROE to predict current year ROE, Islamic banks are better than conventional banks. This model is not for the purpose of comparison it is only a bench mark for other aggregated earning models.

Regression Results of the Aggregated Earning Model

Table-2: Regression results of the aggregated earnings model (equation 2) for Islamic and conventional banks

	Islamic Banks			Conventional Banks		
Variable	Coefficient	Std. Error	t-statistic	Coefficient	Std. Error	t-Statistic
C	0.0154	0.0085	1.81	-0.305	0.181	-1.679
NI	1.073*	9.677	11.089	4.358***	2.327	1.873
R^2	0.842			0.0363		
Adj R^2	0.835			0.0259		
F value	145.34			53.971		
Prob > F	0.0001			0.0001		

According to table-2, the value of R^2 for Islamic banks is 84.2 percent which is greater than 41.6 percent of benchmark ROE model. It tells that aggregated earnings for Islamic banks is more informative than ROE model for the prediction of future ROE. The value of R^2 for the aggregated earnings model for conventional banks is 3.6 percent which is somehow remains the same when compared to ROE model. It shows that aggregated earning model for conventional banks has the same predicting power as ROE earning model to predict future ROE.

According to the results of the above two tables, difference of R^2 between ROE benchmark model and aggregated earning model is 42.6 percent for Islamic banks which shows that aggregated earning model is 42.6 percent more informative than ROE model. And for conventional banks, the difference is non-existent. The results show that aggregated earnings of Islamic banks are 39.3 percent more informative than conventional banks to predict future ROE. Moreover, the results indicate that NI coefficients are statistically significant for both Islamic and Islamic banks, however, the magnitude of coefficient of conventional banks is greater than for Islamic banks.

Regression Results of the Markup Earning Model

Table-3: Regression results of the markup earnings model (equation 3) for Islamic and conventional banks

	Islamic Banks			Conventional Banks		
Variable	Coefficient	Std. Error	t-statistic	Coefficient	Std. Error	t-Statistic
C	2.0696	0.0178	4.235	0.364	0.358	1.376
MI	0.887**	1.722	2.812	1.036***	1.658	1.237
ME	-1.725***	3.231	-1.174	-1.021	3.451	-0.295
PNPF	-1.185**	4.864	-2.386	-1.314***	5.837	-1.0815
R^2	0.71			0.041		
Adj R^2	0.669			0.0092		
F value	128.29			102.91		
Prob > F	0.0001			0.0001		

Results show that markup earning model is strong for Islamic banks and weaker for conventional banks. According to the above table, the value of R^2 for Islamic banks is 71.0 percent which is less than the value of R^2 (84.2 percent) for aggregated earnings model. This means that markup

earning component of Islamic banks is less informative than aggregated earnings to predict future ROE. Table-3 shows the value of R^2 which is 4.12 percent for conventional banks greater than R^2 (3.6 percent) of aggregated earnings model. It shows that markup earning component is more informative for conventional banks than the aggregated earnings model.

According to the above results, the explanatory power of markup earnings model for Islamic banks is 13.1 percent less than the aggregated earnings model and for conventional banks it is only 0.5 percent. The results also indicate that the coefficients of all the explanatory variables are statistically significant for both Islamic and conventional banks except the coefficient of markup expenses for conventional banks which is statistically insignificant. Moreover, the sign of the coefficient of markup expenditures and provision for non-performing financing (PNPF) is negative showing that earnings of the banks are inversely related to the amount spent on ME and PNPF explanatory variables, further support the previous studies in this regard.

Non Markup earning Model

Table-4: Regression results of non-markup earnings model (equation 4) for Islamic and conventional banks

	Islamic Banks			Conventional Banks		
Variable	Coefficient	Std. Error	t-statistic	Coefficient	Std. Error	t-Statistic
C	0.0081	0.0325	0.249	0.401	0.281	1.431
FCBI	0.053*	2.376	0.809	1.941**	2.271	2.0084
DI	0.073	9.92	0.813	0.891	3.242	0.314
IFC	0.767	6.369	0.074	0.639	3.428	0.281
GLST	0.523	1.078	0.912	0.178	2.798	0.149
OTHI	0.436***	8.068	1.78	0.919	3.349	0.206
AE	-0.594**	3.291	-2.612	1.849	4.098	0.111
R^2	0.914			0.0218		
Adj R^2	0.852			0.0464		
F value	221.45			132.65		
Prob > F	0.0001			0.0001		

Results show that non markup earning model is stronger for Islamic and weak for conventional banks. Table-4 shows the result for Islamic banks

in which the value of R^2 is 91.14 percent which is more than the value of R^2 (84.2 percent) of aggregated earning model which means that disaggregation of earnings in to Non markup component is more informative than aggregated earnings to predict future ROE in Islamic banks. Table-4 also shows the result for conventional banks. According to results, R^2 is 2.18 percent which is less than 3.6 percent of aggregated earnings model meaning that disaggregation of earnings in to non-markup earning component is less informative to predict future ROE for conventional banks.

When earning is disaggregated in to non-markup earning component, the explanatory power of the model increases for Islamic banks than conventional. It means that the explanatory power of non-markup earning component of Islamic banks is more than conventional banks. However, most of the coefficients of the variables remain statistically insignificant except FCBI, OTHI and AE for Islamic banks and FCBI for conventional banks. The sign of the coefficient for administrative expenses (AE) of the conventional banks is positive, probably shows that as the banking facilities are extended to a large population or regions, AE increases, the banks are then able to earn more profit also, and therefore, the sign is positive for conventional banks.

Combined model

Table-5: Regression results of equation 5 combined model for Islamic and conventional banks

	Islamic Banks			Conventional Banks		
Variable	Coefficient	Std. Error	t-statistic	Coefficient	Std. Error	t-Statistic
C	0.0102	0.021	0.473	0.353	0.321	1.601
NI	1.897*	2.376	3.809	1.783**	9.261	2.198
MI	0.274	9.92	0.813	0.434***	5.633	1.255
ME	-1.463	6.369	-0.074	-1.931	5.513	-0.0213
PNPF	-0.587	38.54	-0.275	-0.632	9.246	-0.672
FCBI	0.332***	2.432	1.826	0.442	2.635	0.131
DI	0.254	9.489	0.453	0.133	4.101	0.264
IFC	0.199***	4.907	2.454	0.562	3.611	0.433
GLST	0.564***	6.766	2.321	-0.321	2.977	-0.0783
OTHI	0.069***	5.364	1.992	0.1675	4.1795	0.0321
AE	-1.567*	3.291	-3.211	-1.732	1.091	-0.186
R^2	0.981			0.0463		
Adj R^2	0.949			0.071		
F value	178.34			121.34		
Prob > F	0.0001			0.0001		

Table-5 shows the result of combined model for Islamic banks which tells that the model is strong for Islamic bank. According to results, R^2 is 98.1 percent which is greater than aggregated earning model which is 84.2 percent. It means that combined model is more informative for the prediction of future ROE for Islamic banks.

Table-5 tells us that the model for conventional banks is a weak model which shows the value of R^2 (4.6 percent) which is greater than the value of R^2 (3.6 percent) of the aggregated earnings model. It shows that combined model is more informative than aggregated earning model to predict future ROE for conventional banks. Results of the combined model shows that explanatory power of Islamic banks is greater than conventional banks.

Conclusion

Fairfield *et al.,* (1996) used a rolling regression and forecasting technique and find out that disaggregation of earnings into the income statement components provide additional predictive content over simpler disaggregation of earnings. However, their study remains silent on that further disaggregation of earnings can be significantly realized when industry-specific data was to be employed. Following the pattern of Ohlson and Peng (2006) and Alam and Brown (2006), this study uses banking industry data to examine the association of subsequent period earnings to disaggregated earnings. The study is carried out to find as to which banking streams' disaggregated earnings is more informative. Earning is broadly disaggregated on the basis of markup income and non-markup income. The conclusion is that disaggregated earning is more informative for Islamic banks and less informative for conventional banks in Pakistan. Islamic banks performed better than conventional banks on the basis of aggregated earnings model, non-markup earnings model and combined earnings model. As most of the operations and activities of the conventional banks are based on interest (*riba/sood*), therefore, they performed well than Islamic banks on the basis of markup earnings model. Over all, the disaggregated earnings components of Islamic banks are more informative than conventional banks to forecast future earnings. The values of R^2 show additional improvement from single benchmark ROE model towards the combined disaggregated earnings model. The study supports the results of Ohlson and Peng (2006), Esplin *et al.,* (2009), Esplin *et al.,* (2011), Alam and Brown (2006) and all other previous researches that disaggregated earnings is more informative to predict future earnings.

Notes

[1] Analysts and investors periodically assess the financial health of each bank based on some very useful techniques. One of the popularly used assessment techniques is called CAMELS. Each letter of this test refers to a specific category of performance.

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