

Analysis Comparative of Probability between Conventional Banks and Islamic Banks in Indonesia

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Abstract—The main object of this study is to investigate the internal factors that influence the profitability between conventional banks and Islamic banks in Indonesia over the quarterly period 2011-2016. The study involved all five conventional commercial banks and five Islamic commercial banks by using the secondary data from Financial Services Authority of Indonesia (OJK). The test was adopted to examine ROA (Return On Asset) as the dependent variable and CAR (Capital Adequacy Ratio), LDR/FDR (Loan to Deposit Ratio/Financing to Deposit Ratio), NPL/NPF (Non-Performing Loan/Non-Performing Financing) as the independent variables. The result of multiple linear regression analysis indicated there was a positive significant impact of CAR and LDR on ROA. Meanwhile for Islamic banks found that NPF was significant but negatively impact on the ROA. On the other hand, CAR and FDR had no significant effect on ROA of Islamic banks. Further the study revealed the significant different of each variables between conventional banks and Islamic banks in Indonesia.

Keywords—Profitability, Volatility, Conventional Banks, Islamic Banks, Central Bank Regulations of Indonesia.

I. INTRODUCTION

BASED on [1] as an intermediary's institution has an important role between parties who have the funds with the parties who need the funds. Bank compiles the fund from the surplus unit and distributes the fund to the deficit unit in order to improve the standard living of people. In running the business, the bank divided into Conventional Bank and Islamic Bank which is run their business in the Syariah principle. Conventional banking system is the one that operate based on the interest-based banking. While Islamic bank is an interest free banking system [2]

Both of conventional banks and Islamic banks are profit-making organizations which is aim to gain profit in their business activities. The differences between conventional banks and Islamic banks are in Islamic banks its prohibited to trade in riba or anything business activities that is not compliance with Syariah principles, but in contrast conventional banks has no restrictions [3]. Conventional banks and Islamic banks create a competition to satisfy their

customers with their own expectations and also for the long term benefit in the term of the economy.

A. Banking Performance in Indonesia

Banks have to maintain their financial performance for the public confidence. There is a standard of the banking industry to know or evaluate the health, it can be seen from the financial statement of the bank that published periodically. Financial statement is a "road map" that can tell about the banks conditions in the past, now, and perhaps can predict for the future. Performance means how adequately a company meets the needs of its owner, employees, depositors, and borrowing customers which is must to keep in the government regulation from the company's activities [4]. This report is very useful to determine the condition of the bank especially for owners, management, government, and the society [5]. Based on [6] stated that CAMELS (*Capital, Asset Quality, Management, Earning, Liquidity, Sensitivity to Market Risk*) is the analysis to measure the health of the banks. The aspects of the analysis by using the financial ratio of the bank. *Capital* covered by CAR, *Asset Quality* covered by NPL/NPF, *Management* covered by BOPO, and *Liquidity* covered by LDR/FDR.

B. Return on Asset

ROA is a ratio that can be used to measure how profitable the company [7]. Researchers want to measure the financial performance by using the financial ratio of the bank. Profitability is the most important indicator to measure the performance or operation of the bank. In determining the bank's health, Central Bank (BI) more concerned on the ROA rather than ROE. BI more focus on measuring the profitability of the bank in the term of the asset which is the fund comes from the deposits of the customers. Therefore ROA is used to measure the bank's profitability as a whole [8]. ROA shows how much profit that the bank will get for each Rp 1 in the assets that owned by the company [7]. Based on [9] the standard of ROA is 1.5%.

Mostly for the conventional bank, the ratio of ROA was good enough which was more than 1.5% although in 2014-2016Q2 decreased into 1.47%. While for the Islamic banks the ratio of ROA still fluctuated but still keep improving to achieve 1.5% point. From that data, the researchers will show the more information about the factor that caused ROA. It can

be seen from the financial report of each bank. Information about the financial position, financial performance, and other information can be seen from the financial report [10].

In this study the financial ratio is used to know how the influence of CAR, NPL/NPF, LDR/FDR toward ROA in conventional banks and Islamic banks in Indonesia period 2011-2016Q2.

C. Capital Adequacy Ratio

CAR of conventional banks in the period 2011-2013 was fluctuated until 44.96% in 2013 and decrease by 22.18% in 2015 but increase by 23.52% in 2016Q2. While during the decreasing of CAR in 2011-2012 and 2013-2015 the ratio of ROA still keeps increasing until 2013 The increasing or the higher of CAR is the better performance of the bank which means the increasing of ROA [11]. In contrast it happened in 2015-2016 the increasing of CAR from 22.18%-23.52% make the ROA decreased from 1.53% become 1.47%. The same thing also happened in the Islamic banks.

D. Loan Deposit Ratio

The ratio of LDR in 2014 is 89.46% become 99.23% in 2015 in contrast with ROA in 2014 is 1.81% down to 1.53% in 2015. If The higher demand for credit causes the increasing of the profitability ROA will show an increasing number [10]. Islamic banks meet the same thing, with increased of FDR in 2013 to 2014 from 91.50% becomes 92.20% while the ROA decreased from 1.45% to 0.67%.

E. Non Performing Loan / Financing

NPL is a bad credit in the term of the payment that occur due to internal or external factors [12]. This ratio is one of the key factors to know the performance of functions of the bank [7]. In 2012 to 2013 the ratio of NPL was increasing and the ratio of ROA increased. It also happened in Islamic banks in 2014-2016.

The availability of data and limitation of time the researchers focus conducting the research on Conventional and Islamic banks period 2011Q1-2016Q2. Based on the background above, the authors decide to conduct further research with the title *“Analysis Comparative of Probability between Conventional Banks and Islamic Banks in Indonesia”*.

II. LITERATURE REVIEW

In the relation to the subject matter, we shall put into consideration the previous researches. There were differences of the results about the variables that affect ROA. For the conventional banks the research that used CAR, LDR, BOPO of ROA in the banking industry that listed in Indonesia Stock Exchange (conventional bank) found that CAR has a positive insignificant effect toward ROA [13]. On the other hand the other used CAR, NPL, LDR toward ROA found that CAR has a positive significantly toward ROA [14]. While for Islamic banks previous research found that CAR has a positive significant effect toward ROA [15] while the other found that

CAR has a positive insignificant effect toward ROA in Islamic banks [13].

Others found that FDR has positive significant effect toward ROA [17]-[18] and LDR has positive significant effect toward ROA [19]-[10]. LDR has no significant effect toward ROA [12]. FDR has no significant effect toward ROA [16]-[20]. NPL has negative significant effect toward ROA [11]-[12], in contrast the other previous research found that NPL has positive insignificant effect toward ROA [21]-[19] while the other found that NPF has negative significant effect toward ROA [17]. Some research indicated the different result, not consistency with the research that has been done before, specifically the researcher intend to purpose further research of the analysis of the determinants variables that determine the conventional Islamic bank's profitability during period 2011Q1-2016Q2 in Indonesia.

III. METHODOLOGY

In pursuance of the statement of problems and theoretical framework, to test the hypothesis, this research used descriptive analysis and statistical analysis to interpret the data. The purpose of descriptive analysis is to define the condition of the company from the data acquired by the researchers. Statistical analysis is to calculate the data with the help of computer programs which is SPSS 22.0 as statistical tool to run the data.

Based on the statement of problem and theoretical framework above, the hypothesis that tested in this research can be stated as follows:

- Hypothesis 1: CAR has partial significant effect toward ROA
- Hypothesis 2: NPL has partial significant effect toward ROA
- Hypothesis 3: NPF has partial significant effect toward ROA
- Hypothesis 4: LDR has partial significant effect toward ROA
- Hypothesis 5: FDR has partial significant effect toward ROA
- Hypothesis 6: CAR, NPL, LDR have a partial and a simultaneous effect toward ROA
- Hypothesis 7: CAR, NPF, FDR have a partial and a simultaneous effect toward ROA

A. Data analysis

In this research, the population is taken from conventional and Islamic banks in Indonesia that listed in Financial Services Authority of Indonesia (OJK). This research applied purposive sampling technique using data from five conventional banks and five Islamic banks that have met the requirement. It used cross-sectional data which means N is $n \times t$. Ten banks both for conventional banks and Islamic banks will define as n, and for 2011Q1-2016Q2 as t, so the sample size is 220. The data was taken from secondary data that published in OJK or that own website of each banks that cover the period from 2011Q1-2016Q2.

B. Multiple Regression

Based on the result of assumption classic tests result it can be concluded that the data on this research has been distributed normally and there is no multicollinearity, heteroscedasticity, and autocorrelation problems that happened. Thus it meets the

requirements to perform multiple regression analysis and perform hypothesis testing. The equation formula is:

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_n X_n$$

Where:

Y = ROA

A = Constant (the value of Y if $X_1, X_2, X_3, \dots, X_n = 0$)

$B_{1,2,3,n}$ = Coefficient of the regression

X_1 = CAR

X_2 = LDR or FDR

X_3 = NPL or NPF

The result shows the multiple regression equation for conventional banks as follows:

$$Y = -4.938 + 0.035X_1 + 0.066X_2 + 0.078X_3$$

While for the Islamic bank's result:

$$Y = 1.586 + 0.007X_1 + 0.004X_2 - 0.369X_3$$

IV. HYPHOTHESIS TESTING

F-test and T-test are used in this research to perform a hypothesis testing. The purpose of F- test is to reveal whether all independent variables have simultaneous influence toward dependent variable, and T test is to reveal whether each independent variable has partial significant influence toward dependent variable [22].

A. Significant Simultaneous Test (F-Test)

F-test is performed by comparing the significance value of F_{table} and F_{count} . The basic of making decision for this test are:

If $F_{count} \leq F_{table}$, H_0 accepted H_a rejected, for $\alpha \geq 0.05$

If $F_{count} \geq F_{table}$, H_0 rejected H_a accepted, for $\alpha \geq 0.05$

Where:

H_0 = there is insignificant influence of independent variables against dependent variable

H_a = there is significant influence of independent variables against dependent variable

TABLE 1
SIMULTANEOUS TEST RESULT

| Conventional Banks | Islamic Banks |
|--------------------|---------------|
| F = 17.649 | F = 9.758 |
| Sig = 0.000 | Sig = 0.000 |

Source: Adjusted by Authors, processing result on secondary data (SPSS 22.0)

Based on the table result the $F_{count} > F_{table}$ (17.649 > 2.70 and 9.758 > 2.70) with the sig. value of f test is 0.000 which is < 0.05. The researchers can reject H_0 and accept H_a . It means all independent variables affect significantly toward dependent variable.

B. Significant Partial Test (T-Test)

TABLE 2
SIGNIFICANT PARTIEL TEST RESULT OF ISALAMIC BANK

| Conventional Banks | | | Islamic Banks | | |
|--------------------|--------|------|---------------|--------|------|
| Model | t | Sig | Model | t | Sig |
| C | -4.654 | .000 | C | 1.812 | .073 |
| CAR | 3.490 | .001 | CAR | .384 | .702 |
| LDR | 5.313 | .000 | FDR | .440 | .661 |
| NPL | .835 | .406 | NPF | -4.269 | .000 |

Source: Adjusted by Authors, processing result on secondary data (SPSS 22.0)

Based on the table above, can be concluded that:

CAR

Conventional Banks $T_{count} = 3.490 > T_{table} = 1.984$ with the sig. value $0.001 < 0.05$ which means H_0 was rejected and H_a was accepted. So CAR has positive significant effect toward ROA While for the Islamic banks, $T_{count} = 0.384 < T_{table} = 1.984$ with the sig. value $0.702 > 0.05$ which means H_0 was accepted and H_a was rejected. So CAR has no significant effect toward ROA.

LDR and FDR

Conventional Banks $T_{count} = 5.313 > T_{table} = 1.984$ with the sig. value $0.000 < 0.05$ which means H_0 was rejected and H_a was accepted. So LDR has positive significant effect toward ROA. While for Islamic Banks $T_{count} = 0.440 < T_{table} = 1.984$ with the sig. value $0.661 > 0.05$ which means H_0 was accepted and H_a was rejected. So FDR has no significant effect toward ROA.

NPL and NPF

Conventional Banks $T_{count} = 0.835 < T_{table} = 1.984$ with the sig. value $0.406 > 0.05$ which means H_0 was accepted and H_a was rejected so NPL has no significant effect toward ROA. While for Islamic Banks $T_{count} = -4.269 < T_{table} = 1.984$ with the sig. value $0.000 < 0.05$ which means H_0 was rejected and H_a was accepted so NPF has negative significant effect toward ROA.

C. Coefficient Multiple Determination Test (R^2)

In order to measure the goodness of the regression equation r square and adjusted r square can be as a defined. R^2 is used if the independent variables are less than two while if the independent variables have more than two, adjusted R^2 is used. It indicates how far the independent variables used in the regression equation which is able to explain a dependent variable [23]. In order to overcome the problem it involves r square that has been corrected called adjusted r square and will adjust if there is an additional independent variable.

TABLE 3
COEFICIENT MULTIPLE DETERMINATION TEST RESULT

| Conventional Banks | Islamic Banks |
|---------------------------|---------------------------|
| R Square = 0.365 | R Square = 0.243 |
| Adjusted R Square = 0.345 | Adjusted R Square = 0.218 |

Source: Adjusted by Authors, processing result on secondary data (SPSS 22.0)

The R^2 of conventional bank is 0.365 and adjusted R^2 is 0.345. The result of adjusted R^2 means 34.5% of dependent variable (ROA) is explained by the combination of independent variables which are CAR, LDR and NPL. The rest 65.5% is influenced by other factors outside the research model. While for the R^2 of Islamic bank is 0.243 and adjusted R^2 is 0.218. The result of adjusted R^2 means 21.8% of dependent variable (ROA) is explained by the combination of independent variables which are CAR, FDR and NPF. The rest 78.2% is influenced by other factors outside the research model.

D. Result

There were several tests that have been conducted. All of the hypotheses used the multiple linear regressions and the interpretation result of this research as follow:

The influence of Capital Adequacy Ratio toward the Return on Asset

CAR has positive significant effect toward ROA in conventional banks. It shows that is consistent with the theory. Capital Adequacy Ratio is the main capital that must be fulfilled by the bank. According to [24] CAR is the ratio that indicates how far the assets that contain the risks (credit, issued securities, claim or bill at another bank) have to be financed by the own capital of the bank besides the third party funds. CAR is the ratio to measure the bank's ability to maintain sufficient capital. Bank is to collect funds and distribute back in the form of loan. If the bank has a good capital and meet the requirements the bank will able to make profit [11]. Central bank of Indonesia [24] stated that the minimum value of its capital is for 8% and it will be considered as a healthy bank. CAR as the independent variable is connected with the risk of the bank that will automatically affect the profitability of the bank. The higher ratio of CAR means the bank can finance the operation although in critical condition and will give a big contribution to the profitability of the bank. The bank will be safe since the banks have sufficient capital reserve in Central Bank. While in Islamic banks CAR has no significant effect toward ROA. Islamic banks sometimes add their capital reserve by provide fresh money to anticipate the risk that can happen and ensure the fulfillment in accordance with Central bank (BI) regulation. The more capital that the banks have sometimes it hampers their business activity especially in Islamic banks the profit is based on profit sharing not based on the interest. Islamic banks do not maximize the capital in the business activity since the banks want to maintain their minimum standard of CAR. Besides, the higher ratio of CAR but less of the community trust it affect small significant to the ROA ratio. It can be seen from the result that the ratio of CAR increase but the ratio of ROA was not always increase. Many banks invest money carefully and more concern on the survival, therefore CAR has not influence toward the profitability of the bank. Based on the independent sample test, the performance of conventional banks and Islamic banks in the term of the financial ratio of CAR has significant different, CAR in conventional bank is better performance than the Islamic banks.

The Influence of Loan to Deposit Ratio and Financing to Deposit Ratio toward Return on Asset

LDR has positive significant effect toward ROA in conventional banks that shows the ability of the bank to repay the withdrawal of funds by the depositor to rely on loans as the source of liquidity. If the bank has the high number of LDR but still in the standard of central bank it indicates that the more credit that the bank's distributed and will increase the profitability of interest. The higher ratio of LDR means the lower bank's liquidity. It indicates that a bank lends most of its funds. However the lower ratio of LDR indicates that the banks do not give an efficient distribution of credit. According to [25], LDR is changed into Loan to Funding Ratio with the standard 78%-92% and it will be applied on the securities

issued of LFR. In the Islamic banks, FDR has no significant effect toward ROA that indicates the quality of financing. According to [26] standard of FDR ratio is between 85%-110%. The result is no significant impact between FDR and ROA. It could be that the financing was not optimal, less effective, and lack of the circumspection principle by the management of the bank. Based on the independent sample t test, the performance of conventional banks and Islamic banks in the term of LDR or FDR has significant different, LDR in Islamic banks has a better performance than conventional banks.

The influence of Non-Performing Loan or Non-Performing Financing toward ROA

NPL has no significant effect toward ROA. The lower ratio of bad debt is the better performance of the bank. While for Islamic banks, NPF has negative significant effect toward ROA. According to [27], standard of maximum NPF is to be 5% which means that if the ratio of NPF is more than 5% the bank indicates to have a credit risk problem. The negative sign means that the increasing of bad financing will decrease the profitability of the bank. Since the conventional banks have lower NPL ratio than Islamic banks, conventional bank is better than Islamic bank.

V. CONCLUSION AND RECOMMENDATION

This research is to evaluate the influence of LDR, CAR and NPL on ROA between conventional banks and Islamic banks in Indonesia over the quarterly period 2011-2016. As the results, the CAR of conventional banks has positive significant effect toward ROA. It proves that the roles of Capital Adequacy Ratio must be fulfilled by the bank which can help bank to face the losses. Moreover, it is to maintain the bank's activities run effectively and efficiently and to increase the profit that will impact the financial performance of the bank. While in Islamic banks, CAR has no significant effect toward ROA. It means that Islamic banks do not use capital efficiently and effectively to do their business activities.

LDR has positive significant effect toward ROA and indicates the bank distributed the credit optimally and with the big amount of the third party funds. With the growing of loans granted will increase the profit of the bank and will gain a healthy financial performance. However, FDR has no effect significantly toward ROA. And it could happen as the financing was not optimal, not effective and less of the circumspection principle by the management of the bank. Especially in Islamic banks the profit that receives by the bank is not in the form of interest fee but from the profit sharing.

NPL has no significant effect toward ROA. It indicates the increasing of NPL will not influence ROA since the provision of loans losses can cover the bad debt problems. Meanwhile, NPF has negative significant effect toward ROA. The higher number of NPF will decrease the profitability of the bank so the lower ratio is the better performance of the bank.

From the conclusion, we provide some recommendations for

some parties that can be useful. Issuer is expected to always maintain the level of capital adequacy. They must conduct periodic monitoring of the financing problems and evaluate the customers and the projects before the finance portfolio.

Islamic banks need to be analyzed more specific, whether murabaha financing more potentially causing problem than musharaka and mudaraba financing. These results will determine which financing more impact the NPF. Conventional banks still keep improving to be a better performance and compete in Indonesia or international by maintain the public trust and investor trust.

For further research, the researchers recommend conducting both for internal and external factors that influenced ROA in conventional and Islamic banks so the most significance factors can be shown either in internal or external factor units.

REFERENCES

Journals:

- [1] Law of Indonesia No. 10 of 1998
- [2] R. Hamidah and S.A. Mohd, "The Profitability of Islamic and Conventional Bank: Case Study in Malaysia," *Elsevier J. Procedia Economic and Finance*, vol. 35, pp. 359-367, 2015.
- [3] K. Kamal, G. Lokesh and S. Bala, *Islamic Banking: A Practical Perspective*. Selangor: Pearson Malaysia Sdn. Bhd, 2008, ch. 1.
- [4] S.R. Peter and C.H. Sylvia, *Bank Management and Financial Services*. Singapore: McGraw-Hill, 2010, pp. 129-134.
- [5] A. Erika, "Financial Ratio and Its Influence to Profitability in Islamic Banks," *Al-Iqtishad J.*, vol. 7, pp. 229-240, July 2015.
- [6] Bank Indonesia Regulation No. 6/10/PBI/2004 on 12th April 2004
- [7] L.E.S. Priscilla and P.D.A. Samuel, "Measuring Risk: Is it Necessary? An Empirical Study in Indonesian Banks," *Rev. Integr. Bus. Econ. Res.*, vol. 2, pp. 8-21, 2013.
- [8] H. Ningsukma and R. Haqiqi, "Pengaruh Internal *Capital Adequacy Ratio (CAR)*, *Financing to Deposit Ratio (FDR)*, dan *Biaya Operasional Per Pendapatan Operasional (BOPO)* dalam Peningkatan Profitabilitas Industri Bank Syariah di Indonesia," *Jurnal Aplikasi Manajemen.*, vol. 14, pp. 161-168, Mar. 2016.
- [9] Bank Indonesia Circular Letter No. 6/9/PBI/2004
- [10] P.A. Anggrainy. *Analisis Pengaruh CAR, NPL, BOPO, NIM dan LDR terhadap ROA*. Semarang: Universitas Diponegoro, 2011.
- [11] A.K. Rina and Yovin, "Factors Affecting Bank Performance: Cases of Top 10 Biggest Government and Private Banks in Indonesia in 2004-2013," *Rev. Integr. Bus. Econ. Res.*, vol. 5, pp. 371-378, 2016.
- [12] S. Heri and K. Nur, "Financial Ratio Analysis toward Profitability on Indonesian Banking," *EBBANK J.*, vol. 7, pp. 11-22, June 2016.
- [13] Defri, "Pengaruh *Capital Adequacy Ratio (CAR)*, Likuiditas dan Efisiensi Operasional terhadap Profitabilitas Perusahaan Perbankan yang Terdaftar di BEI," *Jurnal Manajemen.*, vol. 01, pp. 1-18, Sep. 2012.
- [14] Hardiyanti. *Pengaruh CAR, NPL dan LDR terhadap ROA pada Bank BUMN yang Go-Public di Indonesia*. Makassar: Universitas Hasanuddin, 2012.
- [15] A.H.H. Shinta and S. Chandra, "The Determinants of ROA (Return On Assets) of Full-Fledged Islamic Banks In Indonesia," *Journal Mix. President University.*, vol. 5, pp. 161-175, Feb. 2015.
- [16] I. Dwi. *Pengaruh Financing to Deposit Ratio (FDR), Cash Ratio (CR), Capital Adequacy Ratio (CAR), dan Dana Pihak Ketiga (DPK) terhadap Tingkat Profitabilitas pada PT. Bank XXX Syariah. Tbk. Periode 2006-2008*. Yogyakarta: Universitas Sunan Kalijaga, 2009.
- [17] W.N. Aluisius. *Analisis Pengaruh FDR, NPF, BOPO, KAP dan PLO terhadap Return on Asset*. Semarang: Universitas Diponegoro, 2011.
- [18] R. Faniditya. *Pengaruh Capital Adequacy Ratio (CAR), Financing to Deposit Ratio (FDR), dan Non-Performing Financing (NPF) terhadap Profitabilitas PT. Bank XXX Syariah*. Jakarta: UIN Syarif Hidayatullah, 2015.
- [19] B.A. Yonira. *Pengaruh CAR, NPL, BOPO, dan LDR terhadap Profitabilitas Bank (ROA) pada Perusahaan Perbankan yang terdaftar di Bursa Efek Indonesia*. Yogyakarta: Universitas Negeri Yogyakarta, 2014.
- [20] W. Linda and F.S. Dina, "Pengaruh CAR, NPF, FDR dan OER terhadap ROA pada Bank Pembiayaan Rakyat Syariah di Indonesia Periode Januari 2009 hingga Mei 2014". *Jurnal Ekonomi Syariah Teori dan Terapan*, *JESTT.*, vol. 2, pp. 970-985, Des. 2015.
- [21] D. Kuntari. *Pengaruh Rasio Keuangan terhadap Return on Asset Perbankan (Studi Bank Umum yang terdaftar di Bursa Efek Indonesia Periode 2007-2013)*. Yogyakarta: Universitas Negeri Yogyakarta, 2014.
- [22] G. Imam *Aplikasi Analisis Multivariate Dengan Program SPSS*. Semarang: Badan Penerbit Universitas Diponegoro, 2005.
- [23] N.G. Damodar. *Basic Econometrics*. Singapore: McGraw-Hill, 2004, ch. 1 and 2.
- [24] Bank Indonesia Regulation No. 10/15/PBI/2008 article 2 paragraph 1
- [25] Bank Indonesia Regulation No 17/11/PBI/2015 dated on June 25th 2015
- [26] Bank Indonesia Circular Letter No. 12/11/DPNP/2010
- [27] Bank Indonesia Circular Letter No. 17/19/DPUM dated July 8th 2015