

## SUPPORT FOR AND SUPERVISE OPERATIONAL SOUNDNESS OF CONSTITUTIONAL SHARIA FINANCIAL INSTITUTION

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### **Abstract**

*This paper puts Bayt al-Māl wa al-Tamwīl (BMT) operational activities position, which by law in Indonesia BMT is called as Koperasi Jasa Keuangan Syariah (KJKS, Sharia Financial Service Cooperatives), as an ideal sharia banking activities, where those activities involve all of community component: micro, small, medium, and high economic class; and as a constitutional sharia financial institution in Indonesia. Based on that fact, with appropriate to the law, BMT could involve in sharia financial industry and market complexities. The activities and involvements would bring consequences that BMT is included as financial institution that must be supervised and must allow periodic supervision related to its operational soundness.*

*Research in this paper analyzes BMT operational soundness based on CAMELS rating system plus examination. The system is composed of integration of sharia banking CAMELS rating system that was researched by Muljawan and Sharia Banking Directorate – Bank Indonesia, and BMT performance calculation system that was formulated by Pusat Inkubasi Bisnis dan Usaha Kecil (Pinbuk, Center for Micro Enterprise Incubation). CAMELS plus system is sharia banking CAMELS that accommodates all of aspects of BMT character.*

*CAMELS rating system plus has been used for analyzing BMT operational soundness. The accurate process is applied to synthetic and actual data of BMT, particularly with mathematics, accounting, and banking economics approximation. This system is accurate and capable for processing and analyzing step by step operational soundness of BMT: quantitative and qualitative aspects, including sharia aspects compliance. CAMELS plus assessment results are a composite rating of BMT operational soundness that is classified: quite sound (P1), sound (P2), sound enough (P3), less sound (P4), or unsound (P5); analysis and rating of soundness of every indicator, major area, and component of CAMELS; constructive advices of BMT soundness quality improvements; action plan and analysis of operational continuities. CAMELS plus results, which is continued with action plan and analysis of operational continuities, will give the best solution, whether BMT must stand in or improve its soundness qualities, for quite sound of BMT continuities.*

**Keywords:** *operational soundness, CAMELS Plus, soundness rating, constructive advices, action plan.*

### **A. Introduction**

*Bayt al-Māl wa al-Tamwīl (BMT) is classified as a sharia microfinance institution. As a legal institution, by law in Indonesia, BMT is called Sharia Financial Service Cooperatives. So, basically the structure and operational of BMT is the same as Sharia Financial Service Cooperatives.<sup>1</sup> Cooperative is cooperation based economics that is viewed as grass-roots economy.<sup>2</sup>*

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<sup>1</sup> Several regulations regulate the operational of BMT, such as Republic of Indonesia Act No. 25 of 1992 concerning Cooperatives, Decree of State Ministry of Cooperatives and Small and Medium Enterprises No. 91/Kep/M.KUKM/IX/2004 concerning Guide on Enterprises Activities Implementation of Sharia

As an institution that is classified as cooperative and fulfills sharia compliance, of course BMT can be also classified as constitutional sharia economic institution. It's on the track, even important, for promoting and propagating BMT continuously as constitutionally sharia financial institution in Indonesia. The promotion and the propagation of BMT must be in balance with the development of its operational soundness. It is some kind of a big program for the whole country like Indonesia in the middle of capitalist system, but it is not impossible. The Indonesian constitution has been decided for being obeyed and actualized, and of course has been considered its execution possibilities. So, actually it is just constitution clear and consequent application in all its aspects of national economic. It needs research based on enthusiasm for promoting and propagating cooperative movement as constitutionally economic institution in Indonesia.<sup>3</sup>

The research<sup>4</sup> is begun with the exploration of CAMELS system<sup>5</sup> with its expositions and formulations that has been applied in sharia banking operational soundness rating examination, i.e. CAMELS system that has been applied by Sharia Banking Directorate – Bank Indonesia. The research also investigates *Bayt al-Māl wa al-Tamwīl* (BMT) characteristics<sup>6</sup>, including any kinds of BMT operational soundness examinations that have been done by Pinbuk.<sup>7</sup> Those BMT characteristics, qualitatively and quantitatively, are considered and combined with CAMELS components. The combination is called CAMELS Plus which can be applied for BMT operational soundness examination.

The research cases are defined in three problem statements. First, how does CAMELS System work for analyzing sharia banking operational soundness? Second, how could CAMELS Plus System be applied for analyzing BMT operational soundness? And third, how could BMT soundness rating be defined based on CAMELS Plus System assessment and what are the next steps?

## B. Literature Studies

Researches for BMT have been done, with fiqh, sociologies, histories, laws, economics, mathematics, or mixed approximation. Some of them become inspirations for this research.

Financial Service Cooperatives, and Regulation of State Ministry of Cooperatives and Small and Medium Enterprises No. 35.3/Per/M.KUKM/X/2007 concerning Guide on Soundness Assessment of Sharia Financial Service Cooperatives and Sharia Financial Service Unit of Cooperatives.

<sup>2</sup> Sri-Edi Swasono, *New Paradigm of Economics* (Jakarta: UIN Syarif Hidayatullah, 2012): 27.

<sup>3</sup> Based on Republic of Indonesia Act No. 25 of 1992 concerning Cooperatives; Cooperatives is stated as constitutional economic institution that realize mutualism and brotherhood as the form of economic in Indonesia according to Constitution of Republic of Indonesia 1945 article 33. Mubyarto said that cooperative is principal factor of economic and a concrete form of mutualism. Swasono: *New Paradigm*: 16.

<sup>4</sup> The research was done in Jakarta-Indonesia, from June to August, 2010.

<sup>5</sup> CAMELS is adopted from a rating system of banking soundness: the interagency Uniform Financial Institution Ratings System (UFIRS), that was legal be applied uniformly since 1978 by three federal regulators of commercial banking system of USA: the Office of Comptroller of the Currency (OCC), the Federal Reserve System (the Fed), and Federal Deposit Insurance Corporation (FDIC). The CAMELS is an acronym from first letters of six components of banking operational soundness: Capital, Asset quality, Management, Earnings, Liquidity, and Sensitivity to market risk.

<sup>6</sup> BMT by law in Indonesia is called as *Koperasi Jasa Keuangan Syariah* (KJKS, Sharia Financial Service Cooperatives), according to Decree of State Ministry of Cooperatives and Small and Medium Enterprises No. 91/Kep/M.KUKM/IX/2004 concerning Guide on Enterprises Activities Implementation of Sharia Financial Service Cooperatives. Based on Republic of Indonesia Act No. 25 of 1992 concerning Cooperatives; and Constitution of Republic of Indonesia 1945 article 33; Cooperatives is stated as constitutional economic institution that support economic activities of Indonesian people.

<sup>7</sup> Pusat Inkubasi Bisnis dan Usaha Kecil (Pinbuk, Centre for Micro Enterprise Incubation), as non governmental organization in Indonesia that has been active in BMT development since 1995, has published books and exercise modules about BMT and its operational. Those books and modules become references for explaining analysis method of BMT operational soundness examination by Pinbuk.

Paper by Muljawan (2005), i.e. “A Design for Islamic Banking Rating System: An Integrated Approach,”<sup>8</sup> is a trigger for this research. Muljawan introduces CAMELS Rating System for Sharia Banking and brings in to explore CAMELS more intensive to be applied for microfinance institution like BMT. A book by Aziz and Hatta (2006) i.e. “Akuntansi BMT,”<sup>9</sup> explains accounting system for BMT. The book could show how possible to collect data from BMT financial report for being CAMELS input. Ahmed (2002) with his paper “Financing Microenterprises: An Analytical Study of Islamic Microfinance Institutions,”<sup>10</sup> tells how microfinance institutions financing microenterprises in sound condition through analytical studies. Meanwhile, Khan and Ahmed (2001) explain an issue in Islamic Financial Industry, i.e. “Risk Management: An Analysis of Issues in Islamic Financial Industry.”<sup>11</sup>

Seibel and Agung (2006), based on their research in 2005, write in detail the history and development of BMT in Indonesia compare with sharia bank, sharia rural bank, and rural bank. Their research indicates that BMT grows more rapidly than sharia bank, sharia rural bank, and rural bank, but the growth is not in balance with its regulation and supervision development. It makes BMT too brittle, easy to fail and bankrupt.<sup>12</sup> In other perspective, Sudewo (1999) writes the history of BMT more specific.<sup>13</sup> It needs to highlight that BMT is collaboration between *Bayt al-Māl* (BM) and *Bayt al-Tamwīl* (BT). The character of BM is for social purpose, i.e. to collect, control, and deliver *zakat*, *infaq*, and *sedekah*; in the other hand BT is for profit oriented, that to rotate and manage financing from saving product. The two characters of BMT make it unique as sharia institutions. Aziz and Supanta (2004) tell factors for succeeding BMT, but the important aspect in formal supervision mechanism still not existed.<sup>14</sup> Meanwhile, Nurhayati and Wahyuni (2007), by their research in 2006, assess and calculate BMT performance with BMT performance calculation system from Pinbuk. They tell that Pinbuk calculate BMT performance based on two aspects: physical and spiritual aspect.<sup>15</sup>

Finally, this research it self, tries to combine CAMELS for sharia banking (from Shariah Banking Directorate – Bank of Indonesia) based on research by Muljawan and BMT Performance Calculation System (from Pinbuk) based on research by Nurhayati/Wahyuni. The research also considers all of references that are related with banking theories in general, cooperative institution theories, and BMT.<sup>16</sup>

This research offers CAMELS rating system plus for developing BMT operational soundness, i.e. by giving periodic examination and assessment for six components of BMT operational soundness: Capital, Asset quality, Management, Earnings, Liquidity, and Sensitivity to market risk.

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<sup>8</sup> Dadang Muljawan, “A Design for Islamic Banking Rating System: An Integrated Approach,” *International Conference on Islamic Economics and Finance Proceedings* (Jakarta: BI-IRTI IDB-IAIE-UI).

<sup>9</sup> Amin Aziz and Rahmadi J. Hatta, *Akuntansi BMT* (Jakarta: Pinbuk Press, 2006).

<sup>10</sup> Habib Ahmed, “Financing Microenterprises: An Analytical Study of Islamic Microfinance Institutions,” *Journal of Islamic Economic Studies* 2, No. 2 (March 2002).

<sup>11</sup> Tariqullah Khan and Habib Ahmed, “Risk Management: An Analysis of Issues in Islamic Financial Industry,” *Occasional Paper* no. 5 (Jeddah: IRTI-IDB, 2001).

<sup>12</sup> Hans Dieter Seibel and Wahyu Dwi Agung, “Islamic Microfinance in Indonesia,” *www.uni-koeln.de*. (Cologne: Development Research Center - University of Cologne, 2006)

<sup>13</sup> In Hertanto Widodo, Asmaldi Firman, Dwi Hariyadi, and Rimon Domiyandra, *Panduan Praktis Operasional Baitul Mal Wat Tamwil* (Bandung: Mizan, 1999), 17-40.

<sup>14</sup> Amin Aziz and Ibnu Supanta, *Penanggulangan Kemiskinan Melalui Pokusma dan BMT* (Jakarta: Pinbuk Press, 2004).

<sup>15</sup> Raden R. Nurhayati and Ersya Tri Wahyuni, “Financial Performance Analysis of Islamic Microfinance Institutions: Case Study of BMT Masjid Al Azhar Pasar Minggu and BMT Al Karim Cipulir,” *Enhancing Islamic Financial Services for Micro and Medium Sized Enterprises [MMES]* Vol.2 (Negara Brunei Darussalam: CIBFM-Universiti Brunei Darussalam-IRTI-IDB, 2007).

<sup>16</sup> The research report in complete content can be seen in Yadi Nurhayadi, “Analisis Kesehatan Operasional Bayt al-Māl wa al-Tamwīl Berdasarkan Pengujian CAMELS Rating System Plus,” Doctoral Dissertation (Jakarta: School of Postgraduate – State Islamic University Syarif Hidayatullah Jakarta, 2010).

These periodic examination and assessment are important effort for supporting and supervising operational soundness of BMT. The explanation of those examination and assessment will be discussed through synthetic and actual data.

### C. Methodology

The research is classified as basic research. First, it explores CAMELS system with its expositions and formulations that has been applied in sharia banking operational soundness rating examination, i.e. CAMELS system that has been applied by Sharia Banking Directorate – Bank Indonesia.<sup>17</sup> Second, it investigates *Bayt al-Māl wa al-Tamwīl* (BMT) characteristics and BMT operational soundness examinations that have been done by Pinbuk. In this case, Pinbuk has applied BMT Performance Calculation System (PCS) for assessing operational soundness of BMT. The system is BMT typically, which BMT is as Sharia Financial Service Cooperatives with two aspects: physical and spiritual.<sup>18</sup>

Third, those BMT characteristics, qualitatively and quantitatively, including BMT PCS are considered and combined with CAMELS components for sharia banking. The integration between CAMELS for Sharia Banking and BMT PCS is defined based on some identical aspects and flexibilities of the system. CAMELS components implicitly exist inside BMT PCS that could assess BMT as cooperative institution specifically.<sup>19</sup> Meanwhile, the flexibility of CAMELS makes the system could accept addition or modification for assessing cooperative specification. Finally, the integration between CAMELS for Sharia Banking and BMT PCS yields CAMELS rating system plus (CAMELS Plus).<sup>20</sup>

Fourth, CAMELS Plus is applied as a new rating system for BMT operational soundness assessment. The accurate process is applied to synthetic and actual data, particularly with mathematics, accounting, and banking economics approximation. Then, CAMELS Plus is tested to synthetic data of BMT Sahabat<sup>21</sup>. The results are considered as references to the next application with actual data of BMT Tanjung Sejahtera<sup>22</sup>.

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<sup>17</sup> Bank Indonesia Regulation Number 6/10/PBI/2004 Concerning The Rating System for Commercial Banks, Article 3; Bank Indonesia Regulation Number 9/1/PBI/2007 Concerning The Rating System for Commercial Banks Based on Sharia Principles, Article 3; and Bank Indonesia Regulation Number 9/17/PBI/2007 Concerning The Rating System for Rural Banks Based on Sharia Principles, Article 3, indicate that their rating components refer to CAMELS (Capital, Asset quality, Management, Earnings, Liquidity, and Sensitivity to market risk).

<sup>18</sup> BMT PCS refers to Sharia Financial Service Cooperatives Soundness Assessment Rating System that has been formulated by Pinbuk. See Pinbukindo, “Modul VII Kesehatan KJKS/UJKS/BMT,” *Modul Diklat KJKS/UJKS/BMT Berbasis Kompetensi* (Jakarta: Pinbukindo, 2008).

<sup>19</sup> Components of Capital, Asset, Earning, and Liquidity exist on physical aspect of BMT PCS, i.e. at financial performance assessment. Component of Management is on both physical (at institution and management assessment) and spiritual aspects. Component of Sensitivity to Market Risk exists implicitly on physical aspect, i.e. at financial performance assessment.

<sup>20</sup> CAMELS for sharia banking is modified for assessing specific items of sharia cooperatives such as special form of cooperatives (from, by, and for cooperatives member), specific scheme of organization (meeting of members, board of management, executive staff, etc), specific capital from founder member, funding from and financing for member, etc. The integration considers all of regulations in Indonesia related to operational of banking and cooperatives (see footnote of 11 and 13). The integration also considers international standard of Islamic Banking based on banking standard of Basel Committee on Banking Supervision (BCBS) including Basel I and Basel II, Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), and Islamic Financial Services Board (IFSB).

<sup>21</sup> The synthetic data of BMT Sahabat consist of capital, asset, management, earning, liquidity, and market data from March to June 2010.

<sup>22</sup> BMT Tanjung Sejahtera (TS), located in Koja-North Jakarta, has given its operational data for the research, i.e. secondary data that consist of actual data of its operational in December 2006, December

## D. Results and Analysis

### 1. BMT Operational Soundness Analysis

The qualified examination and supervision of BMT operational with CAMELS rating system plus is depend on data completeness. The basic data for CAMELS plus execution are the balance sheet, the income statement, the funds-flow statement, and the statement of stockholders' equity in complete form, periodic (monthly), and continuous. To keep the quality of the information of operational soundness condition stable, at least, BMT needs to be examined and supervised once in every three months. The examination and supervision cover the assessment of six components of banking operational soundness: Capital, Asset quality, Management, Earnings, Liquidity, and Sensitivity to market risk.

#### a. Capital Assessment

Capital Assessment covers three major areas: the level of solvability, the trends of solvability, and the level of agency role. Table-1a shows three indicators for examining Level of Solvability, i.e. Capital Adequacy Ratio (CAR)<sup>23</sup>, Equity Coverage Ratio (ECR), and Equity to Debt Ratio (EDR). The results of the examination will indicate the rating of each indicator. The Trends of Solvability can be calculated based on three sources of information: internal support of capital, external support of capital, and the business expansion. Table-1b shows two indicators for examining trends of solvability, i.e. Internal Support (IS)<sup>24</sup> and The Growth of Capital Adequacy Ratio (%(CAR))<sup>25</sup>.

Table-1a Capital Assessment: Level of Solvability

Major Area	No.	Indicator
Level of Solvability	1.	Capital Adequacy Ratio = $\frac{\text{Equity (Tier - 1 + 2 + 3)}}{\text{Risk Weighted Assets}}$
	2.	Equity Coverage Ratio = $\frac{\text{Equity (Tier - 1) + AEAL}}{\text{Earning Assets at Risk}}$

2007, December 2008, December 2009, and January, February, March, April, May, and June 2010. The data consist of: financial budget, profit (and loss) report, depositor and debtor data, and questionnaire results data.

<sup>23</sup> CAR is vital for capital assessment. This ratio is formulated in Muljawan, "A Design," 345; Tim Litbang DPbS, *Kajian Mengenai Pengawasan Berbasis Risiko Bagi Perbankan Syariah* (Jakarta, DPbS-BI, 2005), 50; and Peter S. Rose, *Commercial Bank Management* (New York: McGraw-Hill/Irwin, 2002), 492. The formulation is based on Basel I, Basel II, and Basel *Core Principles for Effective Banking Supervision* (BCP). See Basel Committee on Banking Supervision (BCBS), *The New Basel Capital Accord* (Basel: Bank for International Settlements, 2001), 6; and BCBS, *Core Principles for Effective Banking Supervision* (Basel: Bank for International Settlements, 1997), 23. CAR formulation for sharia banking in more detail can be seen in Islamic Financial Services Board (IFSB), *Capital Adequacy Standard for Institutions (Other than Insurance Institutions) Offering Only Islamic Financial Services* (Kuala Lumpur: IFSB, 2005), 3.

The criteria of equity (tier-1, 2, and 3) for conventional banking can be seen at BCBS, *Core* (1997), 23-24; Rose, *Commercial Bank*, 489; and Hennie van Greuning and Sonja Brajovic Bratanovic, *Analyzing and Managing Banking Risk, A Framework for Assessing Corporate Governance and Financial Risk*, Second Edition (Washington: The World Bank, 2003), 102-107; meanwhile the criteria of equity (tier-1, 2, and 3) for sharia banking (including BMT) can be seen at Hennie van Greuning and Zamir Iqbal, *Risk Analysis for Islamic Bank* (Washington: The World Bank, 2008), 223; and IFSB, *Capital*, 3.

Risk Weighted Assets (RWA) is defined from risk assets multiplied by its risk-weighting factor according to specific risk for each asset. See Rose, *Commercial Bank*, 490-492; and as consideration for sharia banking see Greuning and Iqbal, *Risk Analysis*, 225-231.

<sup>24</sup> The assessment of internal support is from ratio of the growth of retained earning to the growth of RWA. For BMT each month assessment execution (before complete in a year), the growth of retained earning is identified as the growth of earning (that is accumulated from each month).

<sup>25</sup> The growth of CAR is ratio of the growth of equity (tier 1, 2) to the growth of RWA.

	3.	Equity to Debt Ratio = $\frac{\text{Equity (Tier - 1)}}{\text{Guaranteed Debt}}$
AEAL : Allowance for Earning Assets Losses		

Table-1b Capital Assessment: Trends of Solvability

Major Area	No.	Indicator
Trends of Solvability	4.	Internal Support = $\frac{\text{Retention Rate (current)}}{\% \Delta RWA_{t+1}}$
	5.	% (Capital Adequacy Ratio) = $\frac{\% \Delta (\text{Equity (Tier - 1 + 2)})}{\% \Delta RWA_{t+1}}$
RWA : Risk Weighted Assets. % $\Delta RWA_{t+1}$ : Growth expectation RWA (in %) 1 period after in the future.		

The Level of Agency Role can be seen from proportion of the profit and loss sharing deposits on its liabilities. Bank or BMT performs its agency role higher if proportion of the profit and loss sharing deposits higher. Table-1c shows three possible financial ratios to assess the level agency role: Agency Role Ratio, Financial Participation Ratio, and Rate of Return on Non Guaranteed Debt ( $D_{NG}$ ).

The results of Capital Adequacy Ratio (CAR) calculation of BMT Sahabat for each of four months give the rating of P1 (quite sound) for its CAR.<sup>26</sup> The results of ECR calculation give the rating of P1 (quite sound) for its ECR. The results of EDR calculation have ratings P4 (less sound) at the end of March, April, May, and rise to P3 (sound enough) at the end of June 2010. The results of EDR indicate that BMT Sahabat still needs to improve its core capital.

Level of solvability assessment for BMT TS gives results that the ratings for CAR, ECR, and EDR respectively are P4 (less sound), P5 (unsound), and P5 (unsound). All of rating indicates that BMT TS has to improve its capital, in particular its core capital.

The Trends of Solvability calculation of BMT Sahabat gives results that the amounts of IS at the end of March, April, and May 2010 are quite sound with the rating of P1. Meanwhile, the growth of CAR from March to April, April to May, and May to June 2010 are P1, P5, and P1. The growth of CAR from April to May is unsound because from its balance sheet it can be seen that BMT is in intensive business expansion.

In the case of BMT TS that CAMELS plus is executed only for assessing operational soundness at the end of June 2010, the formulation of Internal Support Ratio and The Growth of CAR are modified.<sup>27</sup> The Internal Support for data at the end of June 2010 is quite sound with the rating of P1. From its balance sheet, we can see it because of accumulation of earning that support core capital dominantly. However, the result of the growth of CAR calculation is less sound (P4). It indicates that BMT TS has to improve its core capital. Perform retained earning from its earning for supporting core capital is one of the solutions.

<sup>26</sup> The calculation of CAMELS plus for BMT Sahabat and BMT Tanjung Sejahtera in detail can be seen at Yadi Nurhayadi, "Analisis Kesehatan Operasional Bayt al-Māl wa al-Tamwīl Berdasarkan Pengujian CAMELS Rating System Plus" (Doctoral Dissertation, School of Postgraduate – State Islamic University Syarif Hidayatullah Jakarta, 2010), Chapter 4.

<sup>27</sup> The actual formulations include data 1 period after in the future that include data at  $t$  and  $t+1$ . The formula modifications become data at  $t-1$  and  $t$ .

Table-1c Capital Assessment: Level of Agency Role

Major Area	No.	Indicator
Level of Agency Role	6.	Agency Role Ratio = $\frac{\text{Non Guaranteed Debt}}{\text{Total Debt}}$
	7.	Financial Participation Ratio = $\frac{\text{Equity (Tier - 1)}}{\text{Non Guaranteed Debt}}$
	8.	Rate of return on $D_{NG}$ = $\frac{\text{Return on } D_{NG}}{\text{Non Guaranteed Debt}}$
$D_{NG}$ : Non Guaranteed Debt.		

As a sharia financial institution, BMT Sahabat operates its agency role function that accepts profit and loss sharing deposits. BMT Sahabat has been success as agency role that accepts Non Guaranteed Debt more than a half of its total debt. The amounts of Financial Participation Ratio indicate that BMT Sahabat still needs to improve its core capital for taking responsible to  $D_{NG}$ , if BMT operates in mistakes. BMT is also success as agency role for giving good return to  $D_{NG}$  from March to June 2010.

BMT TS is also operates its agency role function. The results indicate that BMT TS needs to improve its agency role function in general.

#### b. Assets Quality Assessment

The assets quality assessment process concentrates on four main areas: general asset quality, specific asset quality, the implementation of supporting policies, and the projection of asset quality in general. they will consist of eleven indicators. Table-2a - 2d.

The assessment of general asset quality covers the potential loss of the earning assets and the proportion of the non performing assets to the total of earning assets. The General Asset Quality assessment consists of  $EAQ_G$  ratio calculation and  $NPA^{28}$  ratio calculation. The formulation of  $EAQ_G$  ratio and  $NPA$  ratio are shown on Table-2a.

The Specific Assets Quality assessment will be focused on financing data of major customer<sup>29</sup> and major economic sector<sup>30</sup>. Formulations of the assessment are listed on Table-2b. The assessment calculates Earning Assets of Major Customer ( $EA_{MC}$ ) ratio, Earning Assets Quality of Major Customer ( $EAQ_{MC}$ ), Earning Assets of Major Economic Sector ( $EA_{MES}$ ) ratio, and Earning Assets Quality of Major Economic Sector ( $EAQ_{MES}$ ).

Table-2a Assets Quality Assessment: General Asset Quality

Major Area	No.	Indicator
General Asset Quality	1.	$EAQ_G = \frac{EAVaR}{EA}$
	2.	$NPA = \frac{NPEA}{EA}$

<sup>28</sup> Rose writes that *nonperforming assets* (NPA) are income-generating assets, including loans, that are past due for 90 days or more (Rose, *Commercial Bank*, 165). Greuning and Bratanovic define it in more detail. See Greuning and Bratanovic, *Analyzing*, 161-162.

<sup>29</sup> Major customer in Indonesian banking industries is classified in three specifications. (1) Bank with total assets  $\leq$  Rp.1 trillion, the ten most debtor are classified as major customer. (2) Bank with Rp.1 trillion  $<$  total assets  $\leq$  Rp.10 trillion, the fifteen most debtor are classified as major customer. (3) Bank with total assets  $>$  Rp.10 trillion, the twenty five most debtor are classified as major customer. See Tim Litbang DPbS, *Kajian*, 20.

<sup>30</sup> Major economic sector describes financing allocation that is concentrated at specific economic sector dominantly (Tim Litbang DPbS, *Kajian*, 60).

<p>EAQ<sub>G</sub> : Earning Assets Quality in General.  EAVaR : Earning Assets Value at Risk.  EA : Earning Assets.  NPA : Non Performing Assets.  NPEA : Non Performing Earning Assets.</p>
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Table-2b Assets Quality Assessment: Specific Asset Quality

Major Area	No.	Indicator
Specific Asset Quality	3.	$EA_{MC} \text{ Ratio} = \frac{\text{Earning Assets of Major Customer}}{\text{Earning Assets}}$
	4.	$EAQ_{MC} = \frac{\text{Earning Assets Value at Risk of Major Customer}}{\text{Earning Assets of Major Customer}}$
	5.	$EA_{MES} \text{ Ratio} = \frac{\text{Earning Assets of Major Economic Sector}}{\text{Earning Assets}}$
	6.	$EAQ_{MES} = \frac{\text{EA Value at Risk of Major Economic Sector}}{\text{EA of Major Economic Sector}}$
<p>EA<sub>MC</sub> : Earning Assets of Major Customer.  EAQ<sub>MC</sub> : Earning Assets Quality of Major Customer.  EA<sub>MES</sub> : Earning Assets of Major Economic Sector.  EAQ<sub>MES</sub> : Earning Assets Quality of Major Economic Sector.</p>		

Asset supporting policies are assessed by qualitative and quantitative assessments (Table-2c). The qualitative assessments consist of policy and procedure quality, internal review process, and documentation. The quantitative assessments will examine capability in handling problem financing, i.e. calculate Rescheduled Assets<sup>31</sup> (RA) ratio, Haircut Level (HCL) ratio, and Average Recovery Rate (ARR).

The last assessment of assets quality is the general projection of assets quality assessment. The assessment is only in one indicator, i.e. The Enhancement of Earning Assets Quality in General (E(EAQ<sub>G</sub>)) (Table-2d).

Table-2c Assets Quality Assessment: The Implementation of Supporting Policies

Major Area	No.	Indicator
The Implementation of Supporting Policies	7.	Qualitative Assessment for Policy and Procedure Quality.
	8.	Qualitative Assessment for Internal Review Process.
	9.	Qualitative Assessment for Documentation System.
	10.	<p>Capability in Handling Problem Financing, consists of:</p> $\text{Rescheduled Assets Ratio} = \frac{\text{Rescheduled Earning Assets}}{\text{Earning Assets}},$ $\text{Haircut Level Ratio} = \frac{\text{Collateral}}{\text{EA Value at Risk}},$

<sup>31</sup> Rescheduled assets are part of solution for handling problem financing. Based on international standard, assets are normally classified in the following categories: standard or pass, specially mentioned or watched, substandard, doubtful, and loss. Rescheduled assets have been started from substandard assets, where those assets have been declared as nonperforming assets. See Greuning and Iqbal, *Risk Analysis*, 135; also Greuning and Bratanovic, *Analyzing*, 161.



	$\text{Average Recovery Rate} = \text{Avg} \left( \frac{\text{Recovery Value}}{\text{Total WriteOff}} \right).$
EA : Earning Assets Avg : Average	

Table-2d Assets Quality Assessment: The Projection of Asset Quality in General

Major Area	No.	Indicator
The Projection of Asset Quality in General	11.	$E(\text{EAQ}_G) = \frac{E[\Delta \text{EAVaR} (\%)]}{E[\Delta \text{EA} (\%)]} = \frac{\frac{(\text{EAVaR})_{t+1} - (\text{EAVaR})_t}{(\text{EAVaR})_t} \times 100\%}{\frac{(\text{EA})_{t+1} - (\text{EA})_t}{(\text{EA})_t} \times 100\%}$
E(EAQ <sub>G</sub> ) : Enhancement of Earning Assets Quality in General. E[ΔEAVaR(%)] : Enhancement of Earning Assets Value at Risk in %. E[ΔEA(%)] : Enhancement of Earning Assets in %.		

The general assets quality assessment of BMT Sahabat gives results as follow. The ratings of EAQ<sub>G</sub> on March and May 2010 are P2 (sound) and on April and June 2010 are P1 (quite sound). The risk values of earning assets are still under control. Meanwhile, the values of Non Performing Earning Assets from March to June 2010 are all zero, so that the amounts of NPA ratio are all also zero. The ratings of NPA from March to June 2010 are P1 (quite sound). The rating of EAQ<sub>G</sub> of BMT TS at the end of June 2010 is P1 (quite sound). It indicates that the risk values of earning assets are under control. The rating of NPA ratio is P2 (sound). It indicates that there are Non Performing Earning Assets, but their amounts are still in tolerance amounts.

The Specific Assets Quality assessments<sup>32</sup> of BMT Sahabat indicate that condition and quality of major customer financing are under control, however BMT Sahabat still needs to distribute its financing to more other economic sector than to retail trading. Meanwhile, the specific assets quality of BMT TS at the end of June 2010 is better. The results indicate that the financing condition and quality of major customer and major economic sector are under control. There are not earning assets values at risk. These results, of course, are limited based on the data validities and the data transparencies.

The first three indicators of supporting policies on assets management, i.e. policy and procedure quality, internal review process, and documentation process at BMT Sahabat and BMT TS are assessed qualitatively by Likert scale questionnaire. The results indicate that the ratings of the first three indicators of supporting policies on assets management at BMT Sahabat are P1 (quite sound) and P2 (sound). Even, all the ratings at the end of June 2010 are P1 (quite sound). At BMT TS, the results indicate that policy and procedure quality, internal review process, and documentation process at BMT TS are all sound (P2).

The capability in handling problem financing assessment contains the calculation of rescheduled assets (RA) ratio, haircut level (HCL) ratio, and average recovery rate (ARR). At BMT Sahabat and BMT TS, there are not rescheduled earning assets. The HCL ratios indicate that BMT Sahabat and BMT TS have collateral values more than their earning assets value at risk. This is a quite sound condition. There is no loss financing and no write off financing at BMT Sahabat. So, the amount of ARR of BMT Sahabat does not exist. It's different at BMT TS. There are loss financings and there are write off financings at BMT TS. But, according to data, the values are still

<sup>32</sup> The specific assets quality assessment calculates concentration risk that describes the risk due to concentrated assets on specific major customer or major economic sector.

under control that the capabilities in handling problem financings at BMT TS are still in sound level.

The general projection of assets quality assessment contains only one indicator, i.e. The Enhancement of Earning Assets Quality in General (E(EAQ<sub>G</sub>)). The amounts of E(EAQ<sub>G</sub>) at BMT Sahabat indicate that earning assets at risk are decline, but rise at the end of May 2010, because of business expansion. Meanwhile at BMT TS, with some modifications in E(EAQ<sub>G</sub>) calculation formula<sup>33</sup>, earning assets at risk at the end of May and June 2010 are flat, so the amount of E(EAQ<sub>G</sub>) in June is zero. The amounts of E(EAQ<sub>G</sub>) that are lower than one, indicate that there are no growth of earning assets at risk. These are sound condition.

### c. Management Assessment

The component of management is assessed qualitatively. The assessment contains three major areas: General Management Quality, Risk Management Quality, and Regulation and Sharia Compliance Quality. Each major area consists of ten, seven, and five indicators respectively. All indicators are shown in Table-3. Each indicator is developed and spread in questions as questionnaire with Likert Scale.

Management assessment is formed for execution at least once in every three months. The questionnaires are distributed to respondents that are related to BMT operational and BMT assets management, such as founder members, board members, internal supervisors, and management staff. General Management Quality questionnaire consists of 22 questions from 10 indicators. Each question has score from 1 to 5, with the best answer is scored of 5. Risk Management Quality questionnaire consists of 7 indicators with 45 questions. Regulation and Sharia Compliance Quality questionnaire consists of 5 indicators with 22 questions.

The general management quality rating of BMT Sahabat are P2 (sound) and P1 (quite sound). The rating of risk management quality of BMT Sahabat is P1 (quite sound). The rating of regulation and sharia compliance quality is P1 (quite sound). Meanwhile, at the end of June 2010, the rating of general management quality, risk management quality, and regulation and sharia compliance quality of BMT TS are P2 (sound), P1 (quite sound), and P2 (sound) respectively.

Table-3 Management Assessment

Major Area	No.	Indicator
General Management Quality	1.	Legal Procedure of Establishment Base
	2.	Structure and Composition of BMT Organization and Management
	3.	Managerial Independency
	4.	Capacity to Maintain The Quality of GCG
	5.	Information Transparency and Education
	6.	Capacity to Handle Possible Conflict of Interest
	7.	Fair Value Added Distribution
	8.	Brotherhood
	9.	Social Education
	10.	<i>Service excellent</i>
Risk Management Quality	1.	Active Control from Board, Internal Supervisor, and Chief of Management
	2.	Policy Adequacy, Procedurs, and Limits
	3.	Risk Management Process (Identification, Measurement, Monitoring, Mitigation)
	4.	Comprehensive Internal Management and Control

<sup>33</sup> The actual formulations include data 1 period after in the future that include data at  $t$  and  $t+1$ . The formula modifications become data at  $t-1$  and  $t$ .

	5.	Capital and Liabilities
	6.	Assets
	7.	Liquidity
Regulation and Sharia Compliance Quality	1.	Source of Regulation
	2.	Operational Soundness Compliance in Several Criteria
	3.	Link to Sharia Stock Exchange
	4.	Sharia Compliance
	5.	Ethical Investment

#### d. Earning Assessment

The earning component will keep BMT operational in its sound condition for long period.<sup>34</sup> The assessment of earning quality covers break even analysis, industrial competition analysis, and specific analysis for sharia financial institutions.

The break even analysis covers four indicators: Operational Efficiency Ratio (OER), Income Generating Assets (IGA) and Income Composition (IC), Write off Cost ratio (WOC), and Operational Margin ratio (OM) (see Table-4a). The industrial competition consist of two indicators: Return on Assets (ROA) and Return on Equity (ROE) (see Table-4b). The specific analysis for sharia financial institutions consists of three indicators (Table-4c): Commercial Paper Ratio (CPR); Return Correlation; and Return Analysis for Investor, Depositor, Employer, and Community.

The Operational Efficiency Ratio (OER) of BMT Sahabat indicates quite sound (P1) condition. Different condition is indicated at BMT TS, its OER is sound enough (P3). The Income Generating Assets (IGA) of BMT Sahabat indicates sound condition. The Income Composition (IC) values of BMT Sahabat indicate that fee based income in BMT Sahabat is still less than 5%. Meanwhile, the IGA and IC values of BMT TS are not sound and sound respectively. The write off cost (WOC) ratio of BMT Sahabat and BMT TS are the same. Both of them are zero. These indicate a quite sound condition for both of the BMT. The last assessment of break even analysis, the Operational Margin (OM) ratio of BMT Sahabat indicate sound enough (P3) and sound (P2) condition. But the OM value of BMT TS is an unsound (P4) condition. BMT TS should increase its OM value.

Table-4a Earning Assessment: Break Even Analysis

Major Area	No.	Indicator
Break Even Analysis	1.	Operational Efficiency Ratio = $\frac{\text{Operational Expenses}}{\text{Operational Revenue}}$
	2.	Income Generating Assets = $\frac{\text{Earning Assets} - \text{NPEA}}{\text{Total Assets}}$
		Income Composition = $\frac{\text{Fee Based Income}}{\text{Non Fee Based Income}}$
	3.	Write Off Cost Ratio = $\frac{\text{Cost of WriteOff}}{\text{Operational Expenses}}$
4.	Operational Margin Ratio = $\frac{\text{COR} - \text{COE}}{\text{Average Earning Assets}}$	
COR : Core Operational Revenue. COE : Core Operational Expense		

<sup>34</sup> Earning that keep BMT in its continuity is retained earnings, i.e. for covering capital, financial loss, and business expansion (Greuning, Bratanovic, *Analyzing*, 81; Greuning and Iqbal, *Risk Analysis*, 102).

Table-4b Earning Assessment: Analysis of Industrial Competition

Major Area	No.	Indicator
Analysis of Industrial Competition	5.	Return on Assets = $\frac{\text{Earning after Tax}}{\text{Total Assets}}$
	6.	Return on Equity = $\frac{\text{Earning after Tax}}{\text{Total Capital}}$

Table-4c Specific for Sharia Financial Institution Analysis

Major Area	No.	Indicator
Specific for Sharia Financial Institution Analysis	7.	Commercial Papers Ratio = $\frac{\text{Commercial Papers}}{\text{Earning Assets}}$
	8.	Return Correlation = Correlation (Return, Interest)
	9.	Return Analysis for Investor, Depositor, Employer, and Community.

The assessment of industrial competition of BMT Sahabat and BMT TS give some results. The ROA of BMT Sahabat are sound condition, because more than conventional banking interest. But, the ROA of BMT TS is only 0.4%, still less than conventional banking interest. Then, the ROE of BMT Sahabat are sound condition, because these values are more than conventional banking interest. Meanwhile, the ROE of BMT TS is a sound condition too. It's still more than banking interest.

The last earning assessment is the specific analysis for sharia financial institutions which consists of three indicators: Commercial Paper Ratio (CPR); Return Correlation; and Return Analysis for Investor, Depositor, Employer, and Community. The CPR of BMT Sahabat indicates that there is no correlation between return on BMT saving and conventional banking interest rate. And the average return per capita management (RPM) is Rp.2.7 million (upper than regional minimum salary in 2010). All these datas indicate sound condition for BMT Sahabat. Meanwhile, BMT TS does not have any commercial paper yet, so there is no CPR values. The return on BMT saving has no correlation with banking interest, and the RPM is RP.2.4 million (upper than regional minimum salary in 2010). These last two indicators indicate sound condition for BMT TS, but BMT TS needs to begin for publishing their commercial paper.

#### e. Liquidity Assessment

The liquidity assessment is conducted to describe the potential liquidity mismatch. The assessment is calculated based on five ratios as in Table-5.

Table-5 Liquidity Assessment

Major Area	No.	Indicator
Analysis of Potential Liquidity Mismatch	1.	Short Term Mismatch = $\frac{\text{Short Term Assets}}{\text{Short Term Liabilities}}$
	2.	STMP = $\frac{\text{Short Term Asset} + \text{Cash} + \text{Secondary Reserve}}{\text{Short Term Liabilities}}$
	3.	Special Deposits Ratio = $\frac{\text{Special Deposits}}{\text{Total Deposits}}$
	4.	The Growth of SDR = $\frac{\%(\text{Special Deposits Growth})}{\%(\text{Total Deposits Growth})}$
	5.	BMT Channeling Ratio = $\frac{\text{Expected Liquidity Aid}}{\text{Core Deposits} + \text{Net(STMP)}}$

STMP: Short Time Mismatch Plus.

BMT Sahabat are classified P2 (sound) for Short Term Mismatch (STM) ratio at the end of March and April 2010, and P1 (quite sound) at the end May and June 2010.<sup>35</sup> On the other hand at the end of June 2010, BMT TS is classified P4 (less sound).<sup>36</sup> The second ratio (Short Time Mismatch Plus (STMP) ratio), i.e. the STMP ratios of BMT Sahabat are classified as P1 (quite sound). Then, the STMP of BMT TS is classified as P1 (quite sound) too. The third ratio, (Special Deposits Ratio (SDR))<sup>37</sup> of BMT Sahabat is still sound. It means that the withdrawals by core depositors are still in BMT capacities. But, on the other hand, the SDR is warning for BMT TS liquidities if the core depositors withdraw their deposits together in the same time. It's not sound. The fourth ratio, (the Growth of Special Deposits Ratio (GSDR)) of BMT Sahabat indicates sound condition that the growth of special deposits is less than the growth of total deposits. Meanwhile, there is no growth of special deposits of BMT TS during May to June 2010. But the total deposits are still growth. It's still sound condition too. The fifth ratio, (BMT Channeling Ratio (BCR)) of BMT Sahabat is sound. In unexpected withdrawal condition, there is channeling fund for supporting BMT Sahabat. In the other hand, the BCR value of BMT TS needs to improve by setting up strategic alliance with other Islamic financial institutions.

#### f. Sensitivity to the Market Risk Assessment

In this research, BMT is positioned as an active financial institution that is contributed in financial market. Due to the higher exposure to the market variables, BMT is also experienced to have potential losses as a result of the dynamics in the market variables. The market variables include interest rate, commodity price and exchange rates (Table-6).

Table-6 Sensitivity to The Market Risk Assessment

Major Area	No.	Indicator
Interest Rate Sensitivity	1.	Interest Rate Sensitivity Ratio = $\frac{\text{Expected [Interest Rate Loss]}}{\text{Capital}}$
Commodity Price Risk Sensitivity	2.	Eq/Com Sensitivity Ratio = $\frac{\text{Expected [Eq/Com Loss]}}{\text{Capital}}$
Exchange Rate Sensitivity	3.	Exchange Rate Sensitivity Ratio = $\frac{\text{Expected [Exchange Rate Loss]}}{\text{Capital}}$
Eq/Com: Equity/Commodity price volatility.		

Due to BI rate data, interest rate from March to June 2010 is stable at level of 6.5%. There is no correlation between interest rate level of conventional banking and margin level of BMT Sahabat. And there is not financial loss or rush in liabilities. Expected[Interest Rate Loss] = 0.00. Interest Rate Sensitivity (IRS) ratio of BMT Sahabat from March to June 2010 is zero. It indicates sound condition.

<sup>35</sup> Short term assets for BMT Sahabat are *murābahah* lending and *muḍārabah* financing that mature at that month and the assets is classified as standard or pass. Short term liabilities are *wadī'ah* saving that is withdrawn at that month and maturity *muḍārabah* deposits at that month.

<sup>36</sup> There are not classified financing as *murābahah*, *muḍārabah*, *mushārahah*, or other on BMT TS balance sheet. In this research all financing are classified as *murābahah*. On BMT TS liabilities balance sheet, there are not classified liabilities too for kind of savings or kind of deposits. In this research the savings are assumed as *wadī'ah* and the deposits as *muḍārabah*.

<sup>37</sup> Total deposits and core deposits are calculated at assessment month position. Core depositors include 10, 25, or 50 highest depositors from giro, savings, and deposits, i.e. (a) bank with total assets ≤ Rp.1 Trillion, core depositors are 10 highest depositors; (b) bank with Rp.1 Trillion < total assets ≤ Rp.10 Trillion, core depositors are 25 highest depositors; and (c) bank total assets > Rp.10 Trillion, core depositors are 50 highest depositors.

Base on balance sheet data, one of capital source of BMT Sahabat is from sukuk market with its value stable on Rp.500 million and its maturity at December 31, 2010. Equity/Commodity Sensitivity (E/CS) ratio of BMT Sahabat from March to June 2010 is Zero. It indicates sound condition.

The exchange rates of IDR to USD from March to June 2010 are relatively stable Rp.9046.00 – 9420.00 / USD. There is no influence of IDR fluctuation to profit margin of BMT Sahabat. The Exchange Rate Sensitivity (ERS) ratio of BMT Sahabat from March to June 2010 is zero. It indicates sound condition too.

Meanwhile, BMT TS has no contribution to financial market yet. There are not losses or potentially losses from fluctuation of interest rate, commodity price, and exchange rates. In this case, the sensitivity to market risk assessment can't be executed to BMT TS yet. The institution need to expance it activities by listing or investing on financial market.

## **E. Conclusion**

CAMELS Rating System has been used for assessing conventional banking soundness. For sharia banking, technically, the assessment process with CAMELS would cover nearly the same aspects except for particular aspects as follows. First, the assessment tools for assessing the financial soundness would be adjusted into the structure of sharia banking. Second, it would cover the sharia objectives that have not been covered in the conventional framework, such as ethical investment, sharia compliance and the adoption of sharia values in the banking operations. Integration of CAMELS for sharia banking and BMT Performance Calculation System yields CAMELS Rating System Plus.

Based on the CAMELS Rating System Plus assessments, component ratings of BMT Sahabat are quite sound (P1) for capital adequacy, assets quality, management, earning, liquidity, and sensitivity to market risk. The institution is classified in excellent condition that could handle negative influences from the fluctuations of economic and financial industries. The BMT composite rating is quite sound (P1). The institution could be moving on its activities in quite sound and keep standing in its rating. The BMT doesn't need specific treatment in all its operational components and could be continued in safety.

Meanwhile, component ratings of BMT TS are sound enough (P3) for capital adequacy, quite sound (P1) for assets quality, sound (P2) for management, sound enough (P3) for earning, sound (P2) for liquidity, and no rating for sensitivity to market risk. Those component ratings conclude composite rating in sound condition (P2). The institution is classified in good condition and can handle negative influences of economic and financial industries fluctuation, but there are minority weaknesses that could handle by routine action immediately. In this case, the BMT need to wary, because its composite rating is potentially down to sound enough (P3). The institution could operate with more efforts in increasing its rating. The BMT need specific attention in upgrading its capital and earning, and more strictly in administration monitoring and supervision. In the other side, the institution needs to contribute in financial market actively. If these advices are executed, the BMT could continue the operational in safety.

These results of CAMELS Plus indicate its effectiveness as a tool for analyzing and assessing BMT Operational soundness. The application of CAMELS Plus for assessing BMT operational could inform its soundness condition. This system in detail is accurate and capable for processing and analyzing step by step operational soundness of BMT: quantitative and qualitative aspects, including sharia aspects compliance. CAMELS Plus results, which is continued with action plan and analysis of operational continuities, will give the best solution, whether BMT must stand in or improve its soundness qualities, for quite sound of BMT continuities.

The BMT operational activities could be stated as ideally sharia banking activities, which all components of economic society class: micro, small, medium, and high, are included. Based on the Indonesia regulations, the BMT could participate in complexities of sharia financial market industries and institutions. The BMT could give opportunities for micro economic society class to

take contribution in banking and financial market activities. The participation of the BMT in complexities of financial market brings the BMT in the same level like the sharia bank.

Because of identically level between BMT and sharia bank, BMT needs to be supervised and assessed for its operational soundness like sharia bank. Identically level in activities brings identically treatment in assessing its operational soundness. If the assessment of sharia banking operational soundness uses CAMELS for sharia banking, it is making a sense if the assessment of BMT uses CAMELS Plus. So, it is realistic to state that CAMELS Rating System Plus could support for and supervise the operational soundness of BMT as constitutional sharia financial institution.

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