Banking Health Assessment Using CAMELS And RGEC Methods, Using OJK’s Banking Financial Statement Data

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Abstract:
Health is important in many areas of life, both for people and companies. Healthy conditions will enhance work arousal and work ability and other abilities. With the rapid development of banks in Indonesia, among others, marked by the number of emerging banks, it is necessary a supervision of these banks. In this case Bank Indonesia as the central bank requires a control over the banks to know how the financial condition and business activities of each bank. Bank policies issued and implemented by Bank Indonesia are basically aimed at creating and maintaining health, both individually and banking as a system. The health or financial and non-financial condition of the bank is in the interest of all parties concerned, whether the owners, managers (management) of the bank, the community using bank services (customers) and Bank Indonesia as the supervisory authority of banks and other parties. The condition of the bank may be used by such parties to evaluate the bank’s performance in applying prudential principles, compliance with applicable regulations and risk management. The development of the banking industry, especially the increasingly complex and diverse products and services will increase the risk exposure facing banks. The problems that arise in the general public is the absence of tools or information system applications how can they know that the bank where they save the funds is the bank in a healthy condition. Referring to these issues we will create a Prototype Application of Banking Health Assessment Using Camels And RGEC Methods, the source of data to be used comes from the data of banking financial statements by OJK informed to the public. Our research is a kind of applied research (Applied Research). The results can be directly applied to solve the problems encountered. In this research will be made Prototype Application of Banking Health Assessment Using Camels And RGEC Method With Utilization of Data Financial Reports of OJK Banking. The results of the prototype of the application is expected to be used to measure the health of a bank.

Keywords: Banking Financial Statements OJK, OJK, Banking Health Assessment Information System, Camels Method, RGEC Method.

1. Introduction
Health is important in many areas of life, both for people and companies. Healthy conditions will enhance work arousal and work ability and other abilities.

With the rapid development of banks in Indonesia, among others, marked by the number of emerging banks, it is necessary a supervision of these banks. In this case Bank Indonesia as the central bank requires a control over the banks to know how the financial condition and business activities of each bank.

Bank policies issued and implemented by Bank Indonesia are basically aimed at creating and maintaining health, both individually and banking as a system. The health or financial and non-financial condition of the bank is in the interest of all parties concerned, whether the owners, managers (management) of the bank, the community using bank services (customers) and Bank Indonesia as the
supervisory authority of banks and other parties.

The condition of the bank may be used by such parties to evaluate the bank’s performance in applying prudential principles, compliance with applicable regulations and risk management. The development of the banking industry, especially the increasingly complex and diverse products and services will increase the risk exposure facing banks. Changes in bank risk exposure and implementation of risk management will affect the bank’s risk profile, which in turn results in overall bank conditions.

The legal basis for the Rating of Bank Soundness issued by Bank Indonesia, namely:1) Legal Basis I Law no. 10 Thn 1998, Banking Act.
2) Legal Basis II of Law no. 3 Thn 2004, Central Bank Law.

The problems that arise in the general public is the absence of tools or information system applications how carannya know that the bank where they save the funds is the bank in a healthy condition.

On the basis of these problems are expected to be a tool or information system that will provide information as clear as possible about the health of banking where their funds are stored.

Within the scope of the problem, we are focusing on creating an application prototype that will provide information as clearly as possible about the health of the banks, where their funds are kept.

And the purpose of this study is to create an application prototype that can process data obtained from the financial statements of the bank OJK [6] and produce quality output from the assessed banking.

From the results of this study is expected to:
1. Can provide information about the quality of the assessed banking.
2. Can be used as a reference to decide which bank will be used to save funds.
3. Can be used also by agencies or individuals who have the same problems.

2. Theory And Method

2.1. Understanding Bank Health

According to Bank Of Settlement, banks can be said to be healthy if the bank can exercise control over capital aspects, assets, earnings, management and liquidity aspects.

Definition of Bank Health according to Bank Indonesia in accordance with RI Law no. 7 Year 1992 Regarding the banking Article 29, the Bank is said to be healthy if the bank complies with the Bank’s health requirements with respect to the aspects of Capital, Asset Quality, Quality of Management, Quality of Rentability, Liquidity, Solvency, and other aspects related to the Bank’s business. Parties interested in bank health

The bank’s health is in the interest of all parties concerned, because the failure of the banking system will have a negative impact on the economy. The parties concerned in the financial statements consist of external parties and internal parties.

The internal party consists of:

a. The management, concerned and in dire need of financial information for the purpose of controlling (controlling), organizing (coordinating) and planning (planning) a company.

b. The owner of the company, by analyzing the financial statements the owner can assess the success or failure of management in leading the company.

External parties consist of:

a. Investors, require analysis of financial statements in the framework of determining its investment policy. For an important investor is the rate of return (return) of capital that has or will be planted in a company.

b. Creditors, concerned about returns / credit payments that have been given to the company, they need to know the short-term financial performance (liquidity) and profitability of the company.

c. Government, this information is very useful for tax purposes as well as by other agencies such as Statistics.

d. Employees, concerned with the financial statements of the companies they work for because their source of income depends on the company concerned.

2.2. Change Period: CAMEL to CAMELS to RGEC

Siklus Periode Metode: CAMEL → CAMELS → RGEC

Figure 1: Cycle Period Method: CAMEL → CAMELS → RGEC

CAMEL was first introduced in Indonesia since the issuance of the February Package of 1991 on the
prudential properties of banks. The package was issued as a result of the policy package policy of 27 October 1988 (Pakto 1988). CAMEL developed into the first CAMELS on January 1, 1997 in America. CAMELS developed in Indonesia at the end of 1997 as a result of the economic and monetary crisis.

CAMELS analysis is used to analyze and evaluate the financial performance of commercial banks in Indonesia. The CAMELS analysis is regulated in Bank Indonesia Regulation Number 6/10 / PBI / 2004 concerning the rating system of Bank Rating and Bank Indonesia Regulation Number 9/1 / PBI / 2007 concerning the Rating System for Commercial Banks Based on Sharia Principles.

Then issued PBI no. 13/1 / PBI / 2011 and Bank Indonesia Circular Letter No. 13/24 / DPNP as of January 2012 replaces the old method of bank health assessment by CAMELS method with RGEC method. The CAMELS method has been in effect for almost eight years since the issuance of PBI no. 6/10 / PBI / 2004 and SE No.6 / 23 / DPNP. With the issuance of the latest PBI and SE, the CAMELS method is no longer valid, replaced by a new model that requires Commercial Banks to conduct self-assessment of Bank Soundness using Risk-based Bank Rating (RBBR) risk either individually or consolidated.

2.3. CAMEL Method

The indicators on CAMEL are very simple, they are:
1. The "Capital" valuation uses only one measure, that is CAR (Capital Adequacy Ratio) that is "Ratio of capital to risk-weighted assets";
2. Assessment of "Quality Assets" based on the quality of bank earning assets by using two indicators: "The ratio of earning assets classified to earning assets" and "Ratio of allowance for uncollectible accounts to classified earning assets";
3. The "Management" assessment uses 250 questions, which include capital management, asset management, general management, profitability management, and liquidity management;
4. Rating "Earning" uses two measures of ROA (ratio of profit to total assets) and BOPO (ratio of Operating Expenses to Operating Income); and
5. The "Liquidity" rating using the LDR is "the ratio of credit to funds received" and "Net call liabilities ratio to current assets"

In addition to the above quantitative calculations, the CAMEL method takes into account other factors, namely the implementation of small business loans (KUK); implementation of export credit granting; violation of the provisions of the Legal Lending Limit (LLL); and Violation of Net Open Position (NOP). In addition, the soundness of the bank will be reduced to "unhealthy" if there are internal disputes, outside interference in management, "window dressing" or financial engineering, "bank in bank" practices, and financial difficulties resulting in suspension or withdrawal of its participation in clearing.

2.4. CAMELS method

Bank Indonesia Regulation number 6/10 / PBI / 2004 and Bank Indonesia Circular Letter No.6 / 23 / DPNP dated 31 May 2004 in CAMELS lead to internal company performance measures, ranging from Asset Quality, Management, Earning Power, and Liquidity, and Sensitivity to Market Risk. The assessment system with these 5 factors is often called the CAMELS Rating System.

CAMEL assessment in general is as follows:

2.5. RGEC Method

In accordance with the Regulation of Bank Indonesia Number 13/1 / PBI / 2011 concerning the Rating of Commercial Banks, Banks are required...
to conduct a Bank Rating based on the Risk-based Bank Rating. The Bank's Rating of Bank Rating is performed on an individual or consolidated basis.

The stages of the bank's assessment of RGEC may be called the bank's health assessment model that is loaded with risk management. According to BI in the PBI, the Bank Management should consider the following general principles as the basis for assessing Bank Rating: Risk Oriented, Proportionality, Materiality and Significance, and Comprehensive and Structured.

The way of calculation on RGEC - compared to CAMELS method - is significantly different relative to component "R", that is Risk Profile.

Now, Risk Profile is relatively more complicated because it uses a two dimensional matrix. Formerly - that means with CAMELS - we can directly know the value of the rank (score between 1 to 5) if already know the value of the indicator. But now, there are other aspects to consider before getting the final score for the indicator. For example, the "core debtors' ratio to total credit" of a bank is ....%. The first stage is the same as the CAMELS method of determining the rank if the indicator value is known. An example explanation for some assessment indicators for Credit Risk factors can be seen in the following figure.

![Figure 4: Matrix of assessment indicators for Credit Risk factors](image)

However with the new method (RGEC), the value of the ratio has not yet determined its final value. We must see how the implementation of bank risk management is related to the concentration of credit scores on the big debtors. Suppose the bank has fenced off the risk with all its policies, procedures, SOPs, or risk control techniques, it may be that the score for the indicator is improving, or not rated "3rd" as CAMELS does. As an illustration, we see the picture below.

![Figure 5: Quality of Risk Management Implementation](image)

Risk Profile Factor Assessment is an assessment of the inherent Risk and Quality of Risk Management implementation in the Bank's operational activities. Inherent Risk Assessment is an assessment of the Risks inherent in the Bank's business activities, both quantifiable and unambiguous, that may potentially affect the Bank's financial position. The Bank's inherent Risk Characteristics are determined by internal and external factors, including business strategy, business characteristics, product complexity and Bank activities, industries in which the Bank conducts business activities, as well as macroeconomic conditions.

So for "Risk Profile", we use two dimensions, ie the value of factor and risk rating before determining the final rating. Or in other words, the value of an indicator is a function of its indicator value and the quality of risk management associated with the indicator. This is the essence of a new bank health assessment, which is the quality of risk management. Aspects of "Risk Profile" includes 8 (eight) types of Risk that is:
1. Credit Risk, using 12 assessment indicators
2. Market Risk, using 17 assessment indicators
3. Operational risk, using 15 assessment indicators
4. Liquidity Risk, using 11 assessment indicators
5. Legal Risk, using 13 assessment indicators
6. Strategic Risk, using 10 assessment indicators
7. Compliance Risk, using 5 assessment indicators, and

Assessments for other factors, ie factors "G, E, and C" are generally the same as those with previous CAMELS. Until finally, the composite rating of the bank's health rating is reached.
2.6. Types of research

Our research is a kind of applied research (Applied Research). The results can be directly applied to solve the problems encountered. In this research will be made Prototype Application of Banking Health Assessment Using Camels And Rgec Method With Utilization of Data Financial Reports of OJK Banking. The results of the prototype of the application is expected to be used to measure the health of a bank.

2.7. Method of collecting data

Data collection methods used in this study are:

1. Method of observation. Observation or direct observation of the object of research. Observation technique is done by structured observation by preparing the list of data and data source needs

2. Library study methods, data collection methods obtained by studying, researching, and reading books, information from the internet, journals, theses, thesis related to this research.

3. Source data taken from data provided by OJK, on OJK website.

3. Result And Discussion

3.1. System planning

System design determines how the system will meet these objectives[8], in this case: hardware, software, network infrastructure; user interface, forms and reports, as well as special programs, databases, and files that will be required. System design is an advanced stage of system analysis where the system design described system to be built before coding in a programming language. In designing a system can not be separated from the analysis.[9]
3.3. Architectural Infrastructure Design

This stage will explain the form or design of the Banking Appraisal Application so that it can present information relating to the valuation of the banking. The design of infrastructure Prototype Application of Banking Assessment is as follows:

3.4. Construction Interface

This section will explain the implementation or display construction of the Prototype Application of Banking Health Assessment Using Camels And Rgce Method With The Utilization Of OJK Banking Financial Report Data. To explain the construction results will be given from each view, be it input, output, navigation and page views on the prototype built.
| 1.5 Kemampuan Bank memelihara kebutuhan penambahan modal yang berasal dari keuntungan (labu ditahan) (C5) | 20 | Dividen yang dibagi Laba selelah pajak Laba ditahan Modal Rata-rata | $C_3 = \frac{(C51 + C52)}{2} = 8.63\%$ | \[ \begin{array}{c} \frac{0}{14,013,263} = 0.00\% \\ \frac{14,013,263}{81,204,019} = 17.26\% \end{array} \] | 75%<=C5 = Level 1 50%<=C5<75% = Level 2 25%<=C5<50% = Level 3 10%<=C5<25% = Level 4 C5<10% = Level 5 | 5 | 20 | 4 |
| 1.5.1 Dividend Pay Out Ratio (C51) | 1.5.2 Retention Rate (C52) | Sub Jumlah | 20 |
| 2 QUALITY ASSET (QA) | 50 | 2.1 Aktiva Produktif Yang Diklasifikasikan dibandingkan dengan total Aktiva Produktif (QA1) | 30 | Aktiva Produktif Yang Diklasifikasikan Aktiva Produktif | 1% | 1 | 100 | 30 |
| 2.2 Perkembangan Aktiva Produktif bermasalah / Non Performing Asset dibandingkan dengan Aktiva Produktif (QA2) | 30 | Aktiva Produktif Bermasalah Aktiva Produktif | 1% | 1 | 100 | 30 |
| 2.3 Tingkat kecukupan pembentukan PPAP (QA3) | 40 | PPAP yang telah dibentuk PPAP yang wajib dibentuk | 18,523,381 \[ \frac{15,516,676}{15,516,676} = 106.36\% \] | 2 | 80 | 32 |
| Sub Jumlah | | | | | | 46 |
| 3 EARNINGS (E) | 10 | 3.1 Return On Asset (E1) | 20 | Laba sebelum pajak Rata-rata total asset | ROA = 3.45\% | 1 | 100 | 20 |
| 3.2 Return On Equity (E2) | 20 | Laba selelah pajak Rata-rata modal inti | ROE = 25.82\% | 1 | 100 | 20 |
| 3.3 Net Interest Margin (E3) | 20 | Laba sebelum pajak Rata-rata modal inti | NIM = 5.52\% | 1 | 100 | 20 |
| 3.4 Biaya Operasional dibandingkan dengan Pendapatan Operasional (E4) | 20 | Total beban operasional Total pendapatan operasional | B/PO = 53.00\% | 1 | 100 | 20 |
| 3.5 Perkembangan laba operasional (E5) | 20 | Pendapatan Operasional - Biaya Operasional Rata-rata Perkembangan = 1.35\% | | 3 | 60 | 12 |
| Sub Jumlah | | | | | | 92 |
| 4 LIQUIDITY (L) | 15 | 4.1 Aktiva likuid kurang dari 1 bulan dibandingkan dengan pasiva likuid kurang dari 1 bulan (L1) | 40 | Aktiva likuid < 1 bulan Pasiva likuid < 1 bulan | LDR = 88.58\% | 1 | 100 | 40 |

Figure 13: Banking Health Assessment Report_2
<table>
<thead>
<tr>
<th>4.2.1 Month Maturity Mismatch Ratio (L2)</th>
<th>30</th>
<th>Selisih Aktiva dan Pasiva yang akan jatuh tempo 1 bulan</th>
<th>LDR = -1.42%</th>
<th>1</th>
<th>100</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.3 Loan to Deposit Ratio (L3)</td>
<td>30</td>
<td>Kredit Dana Pihak Ketiga</td>
<td>LDR = 85.65%</td>
<td>3</td>
<td>60</td>
<td>18</td>
</tr>
</tbody>
</table>

**B. LIMIT PENEMPATAN BANK MANDIRI**

1. Tingkat Kesehatan: Sehat 88.4
2. Tier-1 Capital: 66,361,280
3. Limit Penempatan (Tier-1 x 3%): 1,990,838

**NERACA**

Laporan Publikasi Bulanan

Neraca

December 2013

PT BANK MANDIRI (PERSERO) Tbk
Plaza Mandiri, Jl. Gatot Subroto Kav. 36-38, Jakarta 12190

UNAUDITED BY OTORITAS JASA KEUANGAN

<table>
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<th>Pos-pos</th>
<th>(dalam Jutaan Rupiah)</th>
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<tr>
<td>Bank</td>
<td>Decemver 2013</td>
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</table>

**ASSET**

1. Kas 17228616.00000
2. Penempatan pada Bank Indonesia 68109352.00000
3. Penempatan pada bank lain 23710886.00000
4. Tagihan spot dan derivatif 170947.00000
5. Surat berharga 87700904.50000
   a. Diukur pada nilai wajar melalui laporan laba rugi 1470994.00000
   b. Tersedia untuk dijual 81370553.00000
   c. Dimiliki hingga jatuh tempo 24945186.00000

d. Pinjaman yang diberikan dan piutang 13210.00000
6. Surat berharga yang dijual dengan jenuh dijual terlambat (repo) 5182903.00000
7. Tagihan atas surat berharga yang dibeli dengan jenuh dijual terlambat (reverse repo) 3103951.00000
8. Tagihan akseptansi 10178370.00000
9. Kredit 41697800.00000
   a. Diukur pada nilai wajar melalui laporan laba rugi 0.00000
   b. Tersedia untuk dijual 0.00000
   c. Dimiliki hingga jatuh tempo 0.00000

d. Pinjaman yang diberikan dan piutang 41697800.00000
10. Pembayaran syariah 0.00000
11. Penyertaan 31599465.00000
12. Cadangan kerugian penurunan nilai aset keuangan -x-
   a. Surat berharga 148728.00000
   b. Kredit 15002015.00000
   c. Leihny 1077616.00000
13. Aset tidak bermujud 2178003.00000
   Akumulasi amortisasi aset tidak bermujud -x-
14. Aset tetap dan inventaris 11700943.00000
   Akumulasi penyusutan aset tetap dan inventaris -x-
15. Aset Non Produktif 4807311.00000
   a. Properiti terbengkalai 151096.00000
   b. Aset yang diambil alih 19815.00000
   c. Rekening tunda 449910.00000
   d. Aset antarkantor 2) 0.00000
   i. Melakukan kegiatan operasional di Indonesia 0.00000
   ii. Melakukan kegiatan operasional di luar Indonesia 0.00000
16. Cadangan kerugian penurunan nilai aset non keuangan -x-
17. Sewa pembiayaan 0.00000
18. Aset pajak tangguhan 2956307.00000
19. Aset Leihny 15559212.00000

TOTAL ASSET 047152376.00000

**LIABILITAS DAN EKUITAS**

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Figure 14: Banking Health Assessment Report_3

Figure 15: Banking Health Assessment Report_4
<table>
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<td>1. Giro</td>
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<td>2. Tabungan</td>
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<td>3. Simpahan berjangka</td>
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<td>4. Dana investasi revenue sharing</td>
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<td>5. Pinjaman dari Bank Indonesia</td>
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<td>6. Pinjaman dari bank lain</td>
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<tr>
<td>7. Liabilitas spot dan derivatif</td>
<td>230320.00000</td>
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<td>9. Utang akseptasi</td>
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<td>13. Liabilitas antar kantor 2)</td>
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<td>a. Melakukan kegiatan operasional di Indonesia</td>
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<td>16. Dana investasi profit sharing</td>
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<td>17. Modal disetor</td>
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<td>b. Modal yang belum disetor</td>
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<td>c. Saham yang dibeli kembali (treasury stock)</td>
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<td>e. Lainnya</td>
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<td>19. Pendapatan (kerugian) komprehensif lainnya</td>
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Figure 16: Banking Health Assessment Report_5
4. Conclusion

Based on the results of research that has been done, then in this study can be drawn conclusion as follows:

1. Based on the research that has been done then it can be concluded that this research goes well, in applying CAMELS and RGEC method in giving assessment to banking.

2. The result of this research is Prototype Application of Banking Health Assessment Using CAMELS And RGEC Method With Utilization of OJK Banking Financial Report Data, and can be developed into a better application.

5. Acknowledgment

Our praise and gratitude convey to God for all His grace and grace so that the writing of this scientific article has been successfully completed. We don't forget to thank our family FACULTY OF COMPUTER SCIENCE, UNIVERSITAS MERCU BUANA, and especially PUSLIT UNIVERSITAS MERCU BUANA which has provided funding support in the writing of this scientific article.

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