Provision for Bad & Doubtful Financing and Contingency Reserve Management: Assessing Resilient and Stable Islamic Banks

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Abstract
Banks will not be resilient and stable if the provision for bad and doubtful financing (PBD) and contingency reserve (CR) failed to play its role as bank operational buffers whenever there is an economic condition disorder. Every firm has to face the financial uncertainties and the sudden shock of economic activity disorder, which will directly affect their operations. The management of PBD and CR is necessary to make the bank well protected. To verify the resiliency and stability of the Islamic bank, hence, this paper empirically examines the bank management of PBD and CR. An unbalanced panel data analysis was conducted on 67 Islamic banks from various countries for the period of 2000-2014. The empirical evidence shows, although the bank PBD does fulfil the resiliency and stability behaviour conditions, the insignificant relationship of the M2 growth and CPI growth to the PBD growth need some consideration from the banks and policy makers. The finding also provides an indication that only the current year profit growth behaviour is positively correlated to the CR growth. The findings recommend the Islamic bank PBD and CR management need to be sound to make it more resilient and stable.

Keywords: Business cycle; Bank Resiliency; Bank stability.

1. Introduction
The economic stability is becoming more fragile compared to before, especially related to the financial market instability. A series of unprecedented financial meltdowns has shaken the international financial market and affected the smooth running of the global economic market. Every firm has to face this economic condition of financial uncertainties and sudden shock of economic activity disorder and almost impossible to escape from all these challenges which will directly affect their operations. The paper foresees that bank wills not resilient and stable if the provision for bad and doubtful financing (PBD) and contingency reserve (CR) failed to play its role as bank operational buffers whenever there is a disorder in the economic condition.

This paper analyses the response of the Islamic bank PBD and CR policy to the changes in macroeconomic condition. The PBD and CR growth should behave positively to the changes in the macroeconomic and microeconomic predictors in order to make it resilient and stable. The PBD and CR policy will verify the capability of the bank to control the financing volume for operational safety purposes. The PBD and CR instruments operate as a buffer for a bank in facing the market uncertainty. In the event of economic expansion, the buffers instrument should able to put pressure on bank financing activity. During contracting economic bank should reduce the PBD and CR to increase the financing activity to amplify the economy.

2. Review of Literature
With the increase in the volatility of economic activity since 1970s, that becoming highly erratic after 1990s has raised concern about the effectiveness of the banking institutions in managing their risk exposure. It is crucial to re-evaluate the effectiveness of the banking institutions in maintaining its stability, resiliency, sustainability and viability under this dynamic, complex, unstable and unpredictable economic condition.

According to the year 2009 survey by Economist Intelligence Unit survey and SAS, more than 70 percent of the world leading financial services executives believed that the losses stemmed from the credit crises were largely due to the inherent failure in addressing the risk management issues. ‘Subprime crises’ in 2007 and Greece's financial
adjusting its PBD and CR the bank, assure that its lending activities will not overreact to the economic swings. Conceptually, Figure 1 shows the working of PBD and CR.

During an economic upswing, increase of the PBD and CR will reduce bank’s earning assets. This will reduce the amount of financing. In the event of slower economic growth, the reversal behaviour will take place. In the event of an economic downturn, the PBD and CR will be utilised by providing it more to financing activities. With the role of the zakat (obligatory charity) as the automatic investment motivator, the holding of liquid assets will be at the minimum safety level. This will force the Islamic bank to look for new investment opportunities for returns at the least equals to the zakat rate. By adjusting its PBD and CR the bank, assure that its lending activities will not overreact to the economic swings. Conceptually, Figure 1 shows the working of PBD and CR.
The bank should make enough buffers during an economic upturn for safety reason and spend the excess during economic downturn. Failing to do so, when the conditions reverse, loan losses started to emerge and profitability decreases cause the bank to be non-resilient and unstable.

4. Research Methodology

This paper employs the panel data analysis. The analyses of bank resiliency and stability is by examining the relationship of the PBD and CR to the changes in the macroeconomic indicators, namely the real gross domestic product (GDP), money supply M2 and the general price level (CPI). Banking institutions selected for this study are 67 banks, namely from Malaysia, UAE, Saudi Arabia, Bahrain, Egypt, Qatar, Jordan, Yemen, Sudan, Kuwait, Turk, South Africa, Pakistan, Bangladesh, Indonesia and Iran. The bank’s data are from the annual reports. The macroeconomic data are gathered from various countries central bank annual and monthly reports which covered the period from 2000 to 2014. This paper also employed time series data from various banks and across countries in order to obtain a clear and comprehensive understanding on the Islamic bank resiliency and stability.

4.1. Model Specification and Estimation Method

\[ [PBD/EA]_{ijt} = \alpha_0 + \beta_1 GDP_{jt} + \beta_2 M2_{jt} + \beta_3 CPI_{jt} + \beta_4 [TF/EA]_{jt} + \beta_5 [P/EA]_{jt} + \beta_6 [P/EA]_{jt-1} + \epsilon_{ijt} \]

The paper examines the PBD management to the fluctuations of the macroeconomic environment. PBD refers to the anticipated amount of debts remaining at the year-end after the bad financing is written-off. The analytical model is:

\[ i = 1, \ldots, n \text{ (sample bank); } j = 1, \ldots, n \text{ (sample country); } t = 1, \ldots, T \text{ (annual data)} \]  \hspace{1cm} (1)

\[ [PBD/EA]_{ijt} \] is the provision for bad and doubtful financing growth to earning assets growth ratio of the bank \( i \) in country \( j \) at time \( t \). \( GDP_{jt} \) is the real gross domestic product growth in country \( j \) at time \( t \). \( M2_{jt} \) is the money supply M2 growth in country \( j \) at time \( t \). \( CPI_{jt} \) is the consumer price index growth in country \( j \) at time \( t \). \( [TF/EA]_{jt} \) is the total financing growth to earning assets growth ratio of the bank \( i \) in country \( j \) at time \( t \). \( [P/EA]_{jt} \) is the net profit growth to earning assets growth ratio of the bank \( i \) in country \( j \) at time \( t \). \( [P/EA]_{jt-1} \) is the net profit growth to earning assets growth ratio of the bank \( i \) in country \( j \) at time \( t-1 \).

The analytical model is as follows:

\[ [RES/EA]_{ijt} = \alpha_0 + \beta_1 GDP_{jt} + \beta_2 M2_{jt} + \beta_3 CPI_{jt} + \beta_4 [P/EA]_{jt} + \beta_5 [P/EA]_{jt-1} + \epsilon_{ijt} \]

\[ i = 1, \ldots, n \text{ (sample bank); } j = 1, \ldots, n \text{ (sample country); } t = 1, \ldots, T \text{ (annual data)} \]  \hspace{1cm} (2)

\[ [RES/EA]_{ijt} \] is the banks’ contingency reserves growth to earning assets growth ratio of the bank \( i \) in country \( j \) at time \( t \). \( GDP_{jt} \) is the real gross domestic product growth in country \( j \) at time \( t \). \( M2_{jt} \) is the money supply M2 growth in country \( j \) at time \( t \). \( CPI_{jt} \) is the consumer price index growth in country \( j \) at time \( t \). \( [P/EA]_{jt} \) is the net profit growth to earning assets growth ratio of the bank \( i \) in country \( j \) at time \( t \). \( [P/EA]_{jt-1} \) is the net profit growth to earning assets growth ratio of the bank \( i \) in country \( j \) at time \( t-1 \).

The CR is able to improve the safety and soundness of the bank if the CR growth is positively correlated to banks’ profit growth, positively correlated to the real GDP growth and positively correlated to the CPI growth.

5. Findings and Analysis

The panel unit root test was conducted in this study and Table 1 summarises the unit root test on each variable employed in the regression (Levin et al., 1993) method. The test shows that at level all of the variables are stationary.
6. Statistical Result and Analysis

Table 2 provides the explicit evidence of bank actions in anticipating for future losses by looking at its PBD policy. Table 3 provides the results for the bank CR growth to the fluctuation in economic environment. The finding shows that the RE fits better in explaining the regression analysis with the Hausman test value of the \( \chi^2 \) test statistic is 2.07 and \( \rho \) value of 0.91 which is greater than 0.05.

The regression result shows that all the internal determinant variables of the institutions are significant at the 1% level and 5% level except for the previous year profit. On the other hand only the GDP growth of the macroeconomic variables that is significant at the 1% level and positively influencing the PBD behaviour. The empirical evidence shows that with 1% growth in GDP growth the bank institutions will increase its PBD by 0.61% and vice versa.

With the increasing growth of financing and net profit, the PBD growth will tag along by growing at 0.48% and 0.07% to 1% and 5% level of significant respectively. The previous year profit did not significantly influence the decision on current year PBD. The insignificance of previous year profit growth indicates the institutions' decisions on its PBD policy is totally based on the current year performance. Therefore the pro-cyclicality behaviour based on profit enthusiasm hypothesis does not appear in the bank operations following this empirical evidence. In other words the positive correlation between PBD growth and bank earnings growth show the existing of income smoothing actions from the bank financing operations.

Although the bank PBD does fulfil the three conditions of resiliency and stability behaviour, but the insignificant behaviour of M2 growth and CPI growth to the banks' PBD growth need some consideration from the banks and policy makers. This is so because the M2 and CPI are also the indicators of macroeconomic conditions.

### Table-1. Levin, Lin & Chu Unit Root Test

<table>
<thead>
<tr>
<th>Variables</th>
<th>Level Stat</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Financing Growth</td>
<td>-1259.97</td>
<td>0.0000</td>
</tr>
<tr>
<td>Reserve Growth</td>
<td>-351.894</td>
<td>0.0000</td>
</tr>
<tr>
<td>Provision for Bad Debts Growth</td>
<td>-245.537</td>
<td>0.0000</td>
</tr>
<tr>
<td>Net Profit Growth</td>
<td>-22.0467</td>
<td>0.0000</td>
</tr>
<tr>
<td>GDP growth</td>
<td>-19.1078</td>
<td>0.0000</td>
</tr>
<tr>
<td>M2 Growth</td>
<td>-7.3358</td>
<td>0.0000</td>
</tr>
<tr>
<td>CPI Growth</td>
<td>-15.8148</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Sources: EViews Statistical Software generated

### Table-2. Provision for Bad and Doubtful Financings Statistical Result

<table>
<thead>
<tr>
<th>Model Variable</th>
<th>Fixed Effect Model</th>
<th>Random Effect Model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>Std Error</td>
</tr>
<tr>
<td>Constant</td>
<td>-1.3690*</td>
<td>0.4297</td>
</tr>
<tr>
<td>GDP</td>
<td>0.2250*</td>
<td>0.0484</td>
</tr>
<tr>
<td>M2</td>
<td>0.0661*</td>
<td>0.0151</td>
</tr>
<tr>
<td>CPI</td>
<td>0.0704*</td>
<td>0.0291</td>
</tr>
<tr>
<td>Total Financing</td>
<td>0.4506*</td>
<td>0.0279</td>
</tr>
<tr>
<td>Net Profit</td>
<td>0.0528*</td>
<td>0.0097</td>
</tr>
<tr>
<td>Net profit–1</td>
<td>0.0051</td>
<td>0.0092</td>
</tr>
<tr>
<td>R²</td>
<td>0.5402</td>
<td></td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.4698</td>
<td></td>
</tr>
<tr>
<td>SEE</td>
<td>37.7663</td>
<td></td>
</tr>
<tr>
<td>F-test</td>
<td>7.6704*</td>
<td></td>
</tr>
<tr>
<td>DW</td>
<td>1.9881</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at 1%,  **Significant at 5%

Test cross-section random effects  | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob.
-----------------------------------|-------------------|--------------|--------|
Cross-section random               | 2.0725            | 6            | 0.9129 |

Sources: EViews Statistical Software generated

The analysis further looks at the association between the banks’ CR growths movements to the periodic occurrences of the upswing and downswing of economic activities. From Table 3, the Hausman test shows that the RE should be consistent and efficient against the use of FE in this case. The value of the Hausman \( \chi^2 \) test statistic is 6.1 and insignificant with the \( \rho \) value of 0.3. Therefore, the paper concludes that the RE is the preferred specification model for the data.
The only condition met is the current year profit growth behaviour that positively correlated to the CR growth. However, the bank CR growth is undersized compared to the growth in its profit. An increase in current year profit growth by 1% increases the CR growth only by 0.69% and not large enough although it is significant at the 1% level.

<table>
<thead>
<tr>
<th>Model Variable</th>
<th>Fixed Effect Model</th>
<th>Random Effect Model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>Std Error</td>
</tr>
<tr>
<td>Constant</td>
<td>2.0249*</td>
<td>0.3449</td>
</tr>
<tr>
<td>GDP</td>
<td>0.0026</td>
<td>0.0153</td>
</tr>
<tr>
<td>M2</td>
<td>0.0010</td>
<td>0.0128</td>
</tr>
<tr>
<td>CPI</td>
<td>0.0060</td>
<td>0.0386</td>
</tr>
<tr>
<td>Net Profit</td>
<td>0.6597*</td>
<td>0.0134</td>
</tr>
<tr>
<td>Net profit−1</td>
<td>-0.0072</td>
<td>0.0107</td>
</tr>
<tr>
<td>R²</td>
<td>0.8527</td>
<td></td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.8312</td>
<td></td>
</tr>
<tr>
<td>SEE</td>
<td>35.7240</td>
<td></td>
</tr>
<tr>
<td>F-test</td>
<td>39.5496*</td>
<td></td>
</tr>
<tr>
<td>DW</td>
<td>2.3151</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at 1%, **Significant at 5%

Test cross-section random effects | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob.    | Cross-section random | 6.0952 | 5 | 0.297 |

Sources: EViews Statistical Software generated

Therefore, it is important for the bank to reserve more during economic expansion to reduce the earning asset growth so that the financing growth will be slower and the bank financing operations to behave counter-cyclical. During economic downturn, the banks should reduce the CR growth more so that the earning assets can be increased and financing growth will be higher.

7. Conclusions and Recommendations

Islamic scholars believed that with the shariah principles underlying the Islamic bank operations would make it resilient and stable. This paper provides some empirical evidence on the resiliency and stability of the Islamic bank financing operations towards the expansions and contractions in the macroeconomic environment.

In some way, the behaviour of the Islamic bank was not that enthusiastic to the expansions and contractions in macroeconomic condition. When the economy is expanding, increase in financing volume is followed by the increase in the bank CR and PBD at an increasing rate to shield for the unexpected and expected losses appropriate with the increase in risk. In the event of an economic upswing, the Islamic bank financing growth is at a diminishing rate with the increase in CR and PBD. During weak economic environment the CR and PBD is on the reducing side to increase excess funding for financing activities. By avoiding speculative financial transaction and financial risk transaction, the Islamic bank is able to protect itself from economic fluctuation.

Though the CR and PBD do able to control the financing activities, however, the finding also shows that the amount is still not large enough to manage the earning assets that have a direct influence on the financing volume. This is evidence of the insignificance relationship of financing growth of Islamic banking to the real GDP growth, M2 growth and CPI growth (Bakar et al., 2014). Therefore the policy on CR and PBD need some serious consideration from the Islamic bank management and policy makers so that it will have a larger impact on the Islamic operation and also able to confirm its capability.

Referring to the finding of this study, adherence to the Islamic values in financial transaction activities is a decisive solution in achieving stable banking operations. The ban on interest-based instrument and all of its forms of usage, avoiding from speculative, ambiguous and financial risk transactions and abiding to all other forms of shariah instructions are the criteria needed to achieve a stable financial market.

It is necessary to do an in-depth analysis on the chapter Yusuf (12) verses 47 to 49 in the Quran. Through the statistical and a dynamic analysis the precise amount of CR and provisioning can be determined. A forceful CR and PBD system may perhaps make the correlation more convincing with higher coefficient between the financing activities and the GDP, money supply and CPI. It is important for the banking institutions to have their own internal models to manage their CR and PBD to comply with the Quran (12:46-49) instruction. A standard approach also needs to be developed by the regulator following the Quran (12:46-49) instruction. The existing reserve policy model practices by the central bank need to be reviewed to suit with the Quran (12:46-49) instruction.

References


