A COMPARISON OF CUSTOMERS BEHAVIOR BEFORE AND AFTER INTEREST RATES DEPRECIATION

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ABSTRACT

The purpose of this study is to identify factors that influence the behavior of customers in bank saving activity before and after interest rate depreciation. Data were collected using questionnaire. The questionnaire was designed in closed form and distributed to customers with convenience sampling method. The data collected then analyzed using a multi-level structural equation models. The results showed that there’s difference in customer perception towards bank saving account as an investment mode before and after bank regulation. As well it is also found that there’s difference in customer perception towards bank interest rate before and after bank regulation. It is also found the different between before and after bank regulation on customer trust toward bank saving account.

KEYWORDS

Interest rates, savings, bank regulation, trust, investment

1. INTRODUCTION

The economic crisis that started in late 1997 which is started by financial crisis has left an impact on Indonesian bank business. The crisis was marked by declining of Indonesian money (Indonesian Rupiah-IDR) value. Before the crisis, exchange rate IDR to US dollar was about 2,000 IDR for one USD. At the beginning of crisis, it raise to around 4,000 IDR even reached 16,000 IDR for every dollar in 1998. For the sake of IDR exchange rate, Bank of Indonesia decision makers tried to collect money from people by raise bank interest rate. Fantastic number even emerged to attract people to save money in bank. Interest rate up to 50% was offered. But even so, exchange rate was not recovered. Since then, bank experiences various problems such as the closure of banks, merger of banks, and others. Varies policies applied to overcome the problems.

Interest rate gradually decreases. And last few years, since 1999 particularly, Bank of Indonesia came with new regulations. One of them is the decreasing of interest rates very drastically. New bank regulation set of interest rates ranging from 0-3%.

This decrease is very drastic. Even before the financial crisis, interest rates are always above 10%. Given the interest rate offered by bank is a major attraction for customers, it is interesting thus to find out if there are change in customer behavior toward bank saving after bank regulation, interest rate depreciation particularly. While many developing countries success in building customer trust on e-banking such as as Malaysia (Hway-Boon and Yu, 2003), China, (Lafoer and Li, 2005), Turkey (Akinci, Aksoy, and Atilgan, 2004), and Estonia (Eriksson, Kerem, and Nilsson, 2005), some are in progress in building customer trust such as in Jordan, Thailand, and Nigeria (Ezeoha, 2005; Rotchanakitumnuai and Speece, 2003; Sukkar and Hasan, 2005), Indonesia customer bank might still in question their trust on banking business and products. This evidence may happened similar with bank distrust in other developing countries. The purpose of this study therefore is to identify the differences of bank customer perception and trust before and after bank regulation.

2. RESEARCH METHOD

Data deployed in this research are categorized as primary and secondary data. The primary data collected through questionnaires. Questionnaire was composed to measure of respondent perceptions toward investment, interest rates, and trust. The questionnaire also equipped with respondents demographic questions.

Respondent demographic questions are designed in open form, and consists of residence, gender, age, employment status, type of job, income per month, and education. The question to measure research variables (perception toward investment, interest rates, and trust) was designed in closed form. A five-point bipolar scale
with anchors points "strongly agree" and "strongly disagree" was provided to assess the participants' reactions to each item.

The questionnaire distributed to respondents using email as well as self-administered. The number of samples was determined using the concept of "convenience sampling." The number of samples is thus defined a number needed to conduct data analysis. Before the questionnaires distributed as an instrument of research, it was conducted reliability and validity testing. Questionnaires which are valid and reliable then distributed to the respondents. Data collection was take place during the period of June to August 2009. Further, data collected was analyzed using multilevel technique from Structural Equation Models (SEM). This technique was chosen because it wanted to compare the behaviors of customers before and after bank regulation.

3. RESULT AND DISCUSSION

3.1. Domestics Savings Statistics

Economic growth was triggered by investment. As matter of facts, investment is derived from domestic as well as from foreign. From these two sources of financing, domestic sources are the main source of financing. Viewed from the context of long-term economic growth, it is needed to base investment financing from domestic sources. Further, among various sources of domestic financing, domestics savings is the most important source.

Domestic savings can be in the form of public (citizen and private sector) and government savings. In the contents of domestic savings, all sources must be improved simultaneously. Table 1 shows the increase of domestic savings, both public and government savings during the period 1990-2007. In the year 2007, total domestic savings reached USD 1084.3 billion. This figure is twenty times more than the savings in 1990 which amounted to 53.7 trillion IDR. This number is total of government and public savings. The contribution of government savings is relatively small. Of the total savings in the year 2007, only 8.03 percent (USD 87.1 billion) which is a government savings, while most others (91.97 percent or Rp 997.3 trillion) is public savings. In addition, it is also shown during the period 1990 - 2007, the growing of government savings are relatively more slowly than public savings.

The total number of public savings in the year 2007 twenty-two times compare to public savings in 1990, while saving the government in 2007 only about nine times compared to same period in 1990. Table 1 also shows that the average savings remained higher in post-crisis period (1998 to 2007) compared to pre-crisis period (1990 to 1997). If we see more close, the average savings on this period is also followed with higher coefficient of variation volatility. This shows that the savings development in Indonesia in crisis period is more fluctuating than the period before crisis. As a matter of facts higher savings fluctuations are shown both in government and public savings.

<table>
<thead>
<tr>
<th>Year</th>
<th>Saving (in Trillions IDR)</th>
<th>GNP (in trillions IDR)</th>
<th>Saving/GNP (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Government</td>
<td>Non-government</td>
<td>total</td>
</tr>
<tr>
<td>1990</td>
<td>9.5</td>
<td>44.2</td>
<td>53.7</td>
</tr>
<tr>
<td>1991</td>
<td>11.3</td>
<td>49.8</td>
<td>61.1</td>
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<tr>
<td>1992</td>
<td>13.1</td>
<td>56.6</td>
<td>69.7</td>
</tr>
<tr>
<td>1993</td>
<td>13.4</td>
<td>73.4</td>
<td>86.8</td>
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<tr>
<td>1994</td>
<td>37.6</td>
<td>70.7</td>
<td>108.3</td>
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<tr>
<td>1995</td>
<td>48.1</td>
<td>82.7</td>
<td>130.8</td>
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<tr>
<td>1996</td>
<td>30.7</td>
<td>108.1</td>
<td>138.8</td>
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<tr>
<td>1997</td>
<td>48.3</td>
<td>115.5</td>
<td>163.8</td>
</tr>
<tr>
<td>1998</td>
<td>47.7</td>
<td>236.1</td>
<td>283.8</td>
</tr>
<tr>
<td>1999</td>
<td>62.7</td>
<td>221.0</td>
<td>283.7</td>
</tr>
<tr>
<td>2000</td>
<td>32.9</td>
<td>216.3</td>
<td>249.2</td>
</tr>
<tr>
<td>2001</td>
<td>36.0</td>
<td>414.2</td>
<td>450.2</td>
</tr>
<tr>
<td>2002</td>
<td>16.1</td>
<td>424.9</td>
<td>441.0</td>
</tr>
<tr>
<td>2003</td>
<td>26.5</td>
<td>439.1</td>
<td>465.6</td>
</tr>
<tr>
<td>2004</td>
<td>41.6</td>
<td>477.2</td>
<td>518.8</td>
</tr>
<tr>
<td>2005</td>
<td>21.7</td>
<td>717.0</td>
<td>738.7</td>
</tr>
<tr>
<td>2006</td>
<td>73.5</td>
<td>821.5</td>
<td>895.0</td>
</tr>
<tr>
<td>2007</td>
<td>87.1</td>
<td>997.3</td>
<td>1084.4</td>
</tr>
</tbody>
</table>
Furthermore, the comparison of savings and National Gross Regional Income (GDP) can be described. During 1990-2007, the average percentage of savings to GDP was 26.5 percent, government savings to GDP by 4.3 percent and public savings of GDP by 22.2 percent. It is shown that the percentage of savings to GDP decreased from 27.1 percent in the period before crisis to 26.0 percent in the period after crisis, the government savings decreases from 6.6 percent to 2.5 percent.

However, public savings increased from 20.5 percent to 23.5 percent. After the crisis, fluctuations in the percentage of savings to GDP showed an increase, which is seen from the increasing value of the coefficient of variation of volatility. This is seen both in the total savings, government savings and public savings.

The crisis that occurred in mid-1997 caused depreciation of IDR and also generates high unstable economic. Decline in IDR exchange rate compounded by decreasing of foreign funding sources led to the decline of production and drastically reduced employment opportunities as a result of domestic producers of high dependency on imports of goods and services. At the same time, rising high inflation rate and decline in income has resulted in declining public purchasing power. Negative impact of the crisis situation in Indonesia against the consumption and investment activities has reversed the position of savings and investment gap (savings-investment gap) of the deficit during the pre-crisis period (1990 to 1997) into a surplus after the crisis period (1998 - 2007).

During the period of 1990 to 1997, Indonesia experienced negative savings-investment gap, with an average gap of 2.5 percent of GDP. In nominal terms, this means that during that period, the average annual amount of foreign financing for investment in Indonesia is 9.7 trillion IDR. After the crisis (1998 - 2007), the savings-investment gap indicates a positive number. In nominal terms, it means that during that period, there is potential for untapped investment in Indonesia, the average per year is 61.8 trillion IDR. This potential investment even in the last three years (2004 - 2007) tended to show improvement.

It is also shown that the increase in actual investment is very much possible, especially given the potential for domestic savings is still above the level of investment. In addition, this fact also gives the sense that the issue of investment in Indonesia is not really lie in the lack of financial factors, but rather the investment climate less supportive of business development. Another interesting thing from the development of savings-investment gap is that at the government level, the average number of savings-investment gap is negative both in the period before and after the crisis (although in the years 1994 to 1997 had experienced a positive number). Conversely, at the community level, the average savings-investment gap is negative in the period before the crisis (especially in 1994-1997) to be positive in the period after the crisis.

Gap savings-investment that is negative at the government level indicates fiscal deficit. This also means that government needs to further optimize the sources of government revenue and use them effectively. Optimization of government revenue sources can be expected from tax reform. Reduction of tax rates applied in order to improve the investment climate must be balanced with the intensification and extension of tax. Consequences of fiscal deficits will continue to affect the amount of government loan from foreign to cover these deficits. In the next stage, this will certainly have an impact on the growing burden of government debt.

The development of the savings gap is in the economic development of society at large in Indonesia. So we need a proper public perception of it. For that purpose, investigate the perception of respondents to the progress of savings associated with bank interest rates and safety especially.

### 3.2. Validity and Reliability Tests

Prior to data collection, validity and reliability tests of research instrument were performed. Validity test is intended to determine the accuracy of construct operationalization. A question is said to have high validity if there is alignment score (high correlation) against the total score items. Reliability test in another sense refers to consistency of measurement.

In order to perform validity and reliability tests, as many as 25 data were collected. Result show that 21 out of 30 questions are valid. Questions which were not valid were revised. Again, revised questionnaire were distributed to limited respondents. On this second stage validity test, it is found that 27 out of 30 questions are valid. The three questions which declared are not valid are questions number 9, 17, 30. Those questions asked, since those questions have been included in other valid questions, they are removed from instrument.

Next step is performing reliability test using Cronbach alpha. The calculation shows coefficient reliability is 0.949. Reliability coefficient above 0.80 indicates that the instrument is reliable. Based on this criteria, it can be concluded that the instrument has to be qualified because the research instrument has high level of reliability.
3.3. Comparison Perception Toward Investment, Interest Rate, and Trust Between Before and After Bank Regulations

It’s common sense that customers expect profit from their account saving. No matter the nature of account saving which is not an investment, but still few customer consider account saving as an investment form. Before bank regulation in 1999, bank interest rate always in two digits. Given this, it’s not surprising to find out that many of customers consider bank account saving as profit business.

We used Lisrel software to analyze perception towards investment and bank interest rate of bank customer before and after bank regulation. Perception towards investment was measured using 2 manifest variables. The two variables represent perception of customer that bank saving is an investment. Perception towards bank interest rate is measured using 7 manifest variables. We will discuss each one of those manifest variables. First manifest variable is the reason to choose bank saving will be interest rate. Others are higher interest rate, profit from interest rate, and addition to initial money.

In another evidence, bank rush on the early of economic crisis, where many of banks must be closed due to unhealthy business, could be influenced the trust of customer toward bank saving. In relation to trust and bank saving, there are two main customer concern: “safety” and “gain from interest rate.” Customer trusts toward bank business is measured using 5 indicators (manifest variables) which are based on “safety” and “gain from interest rate” on questionnaire development phase. Therefore, those manifest variables explored customer trust toward bank as a choice to save money, expect profit from bank interest rate, trust and capable to accept the risk in bank business.

Figure 1 show there is a significant different between before and after bank regulation. P-value 0.96814 and Root Mean Square Error Approximation (RMSEA) 0.000 prove that the difference is very strong. Without doubt then we can say that customer perception towards bank saving as investment, revenue from interest rate, and customer trust toward bank are different before year 1999 and after.

Estimation for each latent variable is shown on Figure 1. Invest7 which state “I will be more diligent to deposit money so that I gain more” contributes 0.09 in building perception toward bank saving as investment choice. It’s not as much as can be contributed by invest8. Invest8 is a statement about trust which is “I believe that my money will increased in bank” contributes 0.28 on perception towards bank saving as an investment. It can be interpreted that customer believing in rising their money as they deposit money to be accepted as investment is stronger than intention to deposit more money on bank saving. It is also shown by correlation coefficient (Ry) as described on Equation (1) and (2) below. Correlation of invest7 and investment is 0.097, which means that correlation between invest7 and investment is weak. In another hand correlation coefficient between invest8 and investment is 0.43, stronger than between invest7 and investment.

\[
INVEST7 = 0.090 \times \text{invest}, \text{Error var} = 0.075, Ry = 0.097
\]  
\[
INVEST8 = 0.28 \times \text{invest}, \text{Error var} = 0.11, Ry = 0.43
\]
Given the significance different of customer perception towards bank interest rate between before and after year 1999, it is not surprising as the interest rate is very different in the two periods. Period before 1999, bank interest rate was always above 10% annually. In reverse, period after 1999, bank interest rate is only 0-3 % annually. Among 7 manifest variables of perception towards bank interest rate, inter6 has the highest contribution. Estimation of contribution is 0.45. In another side, the lowest contribution is shown by inter3. Manifest variables inter4, inter5, inter7 and inter8 respectively contribute 0.24, 0.13, 0.16, and 0.38. Perception towards bank interest rate of those 7 manifest variables are:
1. Inter2 : “bank interest rate offered is reason to choose bank”
2. Inter3 : “I choose bank with the highest interest rate”
3. Inter4 : “With high interest rate, my deposit will grow faster”
4. Inter5 : “the higher bank interest rate the higher my deposit on bank”
5. Inter6 : “I’m opening bank saving account in expectation revenue from interest rate”
6. Inter7 : “I got profit from my bank account saving”
7. Inter8 : “I’ll be very glad if bank account saving produce profit”

Then it can be shown that the expectation of revenue from bank saving account has the highest contribution on customer perception towards bank interest rate. Even though path coefficient of few of manifest variables are small, such as “with high interest rate my deposit will grow faster,” they do contribute significantly in building perception towards bank interest rate. Model equation for each manifest variable is shown on Eq. (3) until (9) below.

\[
\begin{align*}
\text{inter2} &= 0.068 \times \text{interest} , \text{Error var} = 0.077 , R_y = 0.058 \\
& (0.010) \quad 6.72 \quad 15.59 \\
\text{inter3} &= 0.014 \times \text{interest} , \text{Error var} = 0.089 , R_y = 0.0021 \\
& (0.010) \quad 1.32 \quad 15.07 \\
\text{inter4} &= 0.24 \times \text{interest} , \text{Error var} = 0.11 , R_y = 0.35 \\
& (0.014) \quad 16.65 \quad 12.93 \\
\text{inter5} &= 0.13 \times \text{interest} , \text{Error var} = 0.095 , R_y = 0.15 \\
& (0.011) \quad 11.21 \quad 15.52 \\
\text{inter6} &= -0.45 \times \text{interest} , \text{Error var} = 0.072 , R_y = 0.74 \\
& (0.023) \quad -19.84 \quad 4.54
\end{align*}
\]
It indicates that bank customer expect higher interest rate. From above figure also we can see the existence of correlation between perception towards bank saving as investment and interest rate, between perception towards bank saving as investment and trust, and between perception towards bank interest rate and trust. The correlations respectively are 0.69, 0.91, and 0.53. These show that correlation between variables is strong even more very strong between perception towards bank saving as investment and trust.

Consumers voluntarily hand over large amounts of cash in the belief that the bank will safeguard the money and pay the consumer a return for the privilege of doing so in interest rate term.

The significant difference of customer trust between before year 1999 and after is not surprising. The collapse of many banks after the crisis influence customer trust toward bank business logically. Customer trust toward bank is composed using 5 manifest variables. Inter8 which is "I'll be very glad if bank account saving produce profit" become manifest variable of trust. The highest contributor is inter8, and the lowest is trust4. Those 4 manifest variables are asking about:

1. TRUST3 : “I chose to save money in bank in expectation my money will increase”
2. TRUST4 : “I experience many usefulness of bank account saving and also the profit”
3. TRUST7 : “I believe will get profit from bank account saving”
4. TRUST8: “I’m worry that my saving will not increase if deposit to bank”

\[
\text{TRUST3} = 0.33 \times \text{trust, Error var} = 0.095 , Ry = 0.54 (10)
\]
\[
\text{TRUST4} = -0.0012 \times \text{trust, Error var} = 0.069 , Ry = 0.00 (11)
\]
\[
\text{TRUST7} = 0.10 \times \text{trust, Error var} = 0.078 , Ry = 0.12 (12)
\]
\[
\text{TRUST8} = 0.18 \times \text{trust, Error var} = 0.11 , Ry = 0.23 (13)
\]

More ever it is needed to see whether the perception towards bank saving as investment choice is higher in period before 1999 or after.

General model for bank customer perception towards bank saving as investment is shown on Equation (14), bank customer perception toward bank interest rate is shown on Equation (15), and bank customer trust is shown on Equation (16).

\[
\text{invest} = 3.0429\text{INVEST7} + 3.1086\text{INVEST8} (14)
\]
\[
\text{trust} = 3.1171\text{TRUST3} + 2.8829\text{TRUST4} + 2.9143\text{TRUST7} + 3.16\text{TRUST8} (15)
\]
\[
\text{int erest} = 2.9771\text{int er2} + 2.9371\text{int er3} + 3.0343\text{int er4} + 2.9971\text{int er5} + 2.7971\text{int er6} + 3.0171\text{int er7} + 2.9743\text{int er8} (16)
\]

One of bank capital source is customer saving, then it's very important to bank management maintain customer trust toward bank so that they choose product bank saving and their bank.

In relation with trust towards bank saving account, security might be the main concern. It is mainly evident recently for bank customer in Indonesia due to closing some bank businesses. Generated from general trust definition, it can be defined as a set of beliefs held by a consumer as to certain characteristics of bank, as well as the possible behavior of the bank in the future (Ganesan, 1994; Coulter and Coulter, 2002). Trust is not just needed in e-business, but it’s essential in all transactions whether physical or not. Therefore, trust discuss often
on various business, not only on bank saving account. To name few of them we can read that trust plays a key role in customers’ online purchasing decisions (Pavlou, 2003), between manufacturers and suppliers (Doney and Cannon, 1997), and in seeking legal advice (McKnight, Choudhury, and Kacmar, 2002).

Given the powerful implications of generating trust across such varied contexts, it is logical that trust also plays an important role in the relationship between customers and their banks (Chau and Lai, 2003; Suh and Han, 2002, Sheth and Parvatiyar, 2000). Banking customers must believe that their bank will properly care for their assets, correctly record and track transactions, ably live up to contractual obligations in the payment and collection of interest, and properly care for clients’ privacy.

Trust exists when someone are facing of ignorance condition or uncertainty with respect to unknown or unknowable action of others (Gambetta, 1998, Sztompka, 1999).

Literature has identified various dimensions in trust, such as perceived honesty and benevolence. Honesty (or credibility) indicates the certainty the consumer has in the business’ sincerity and the fact that it keeps its promises (Gundlach and Murphy, 1993). Benevolence is related to the consumer’s belief that the company is interested in his welfare, that it does not intend to show opportunist behavior (Larzelere and Huston, 1980), and that it is motivated by the quest for joint benefit (Doney and Cannon, 1997). Sztompka (1999) define three dimensions of trust such as reputation, performance, and appearance.

Trust can indeed be a powerful force (Mayer, Davis, and Schoorman, 1995), but a singular emphasis on this positive emotional reaction to another ignores the realities of mixed motives and zero-sum games that predominate a customer’s interaction within a business context. In effect, customers have reasons both to trust and to distrust in dealing with businesses that want their money (Sitkin and Roth, 1993). The banking industry is not immune to customers’ competing perceptions of trust and distrust (Chau and Lai, 2003; Suh and Han, 2002). Banks must instill trust to be successful, but banking by its very nature may encourage perceptions of distrust. Customers depositing their paycheck usually have more at stake than a purchase at a typical retail store. Hence, while bank customers have reasons to trust banks, they also have reasons to distrust.

4. CONCLUSION

It is found the difference of bank customer perception towards the role of bank saving as investment and interest rate before and after year 1999. Bank customer trust toward bank saving product is different between periods before and after bank regulation.

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