The Application Of Risk Management In Westpac Bank Australia

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Abstract

This paper aims to explore application of risk management in Westpac Bank Australia. The paper scrutinises on two risks; credit risk and operational risk. Mainly applying on single case study, the paper focuses on analysis of one large privately-owned bank in Australia. The study involved a series on extensive interviews with key stakeholders in Westpac Bank and content analysis of company's documents. This paper also provides theoretical underpinning relating to risk management on those two focus risks as well as the discussion about regulatory control measures provided by the Central Bank (RBA) and other regulatory authority such as Australian Prudential Regulatory Authority (APRA). The study examines the Westpac Bank's credit risk management by focusing on capital adequacy, credit quality and securitization. Likewise, operational risk concerns with the gross income and non-lending losses for the last five years. Using Bessis framework (2002), the study found Westpac has complied with the relevant regulations using advanced risk measurement tools, such as Credit Grading for credit risk and Advanced Measurement Approach (AMA) for operational risk. Furthermore, business interruption, failure in transaction, inadequate information system, breaches in internal controls, and client liability are observed as the main sources for Westpac to take a more progressive strategy in mitigating risks. This study reinforces that the main motives for company to take actions in mitigating risks are profit, fiduciary obligation, ethical consideration, and reputation.

Key words: *Risk Management, Financial Regulatory Authority, Banking Industry.*

1. Introduction

In business area, risk does not only cause loss or damage, but also create some opportunities to improve company performance. Therefore, it is compulsory for business entity to understand risks as well as to manage them. According to AS/ANZ 4360:2004, risk management is the culture, processes, and structures, which are directed toward realizing potential opportunities whilst managing adverse effect. The need for managing risk becomes more relevant today compared to decades ago because world is changing continuously and also more unpredictable. There are several events that make people more aware about risk now. Firstly, terrorist attack 9/11. Even though America is developed country having sophisticated technology, it still could not avoid risk. Secondly, Natural disaster (tsunami, typhoon), airplane crash, and avian flu pandemic that attacked the world, particularly in Asia. Those disasters even might be considered to be impossible in the past. Furthermore, Business world is facing more complex risks today, which are not known a generation ago. Many companies experienced financial distress due to economic crises and inflation in Asia during 1998. Another risk that arises in business is changes in the legal environment. For instance, environmental damage, sexual harassment, and violence in the work place. Finally, the advancement of technology brings globalization in the world. This situation creates borderless within countries. It leads to economics, politics, and cultural changes. It does not only create opportunities for organization to maximize profit, but also becomes the source of risks that leads the organization to suffer loss.

Banks are generally highly leveraged entities. This means that they usually operate with a relatively small own equity and reserves base compared to the debts and contingent liabilities which they incur on an ongoing basis. They are therefore vulnerable and could easily fail should either a large debtor customer fail or should they incur a large loss trading financial instruments. Other dangers lurk in respect of fraud and country risk. The following examples will illustrate these points: The British bank Barings failed in 1995 due to overwhelming financial instrument trading losses which were concealed from the supervisory authorities by fraud and alleged incompetence. Subsequently, The British bank Barings failed in 1995 due to overwhelming financial instrument trading losses which were concealed from the supervisory authorities by fraud and alleged incompetence. Furthermore, More than 11.000 banks operate in the United States of America. Over the ten years 1980 to 1989 one thousand and seventy seven American banks failed or required rescue assistance from the Federal Authorities. Finally, The Bank of Credit and Commerce International (BCCI) which operated branches and subsidiaries in many financial centres worldwide failed spectacularly in 1991, mainly due to the dishonesty of several senior executives (Bessis, 2002).

Preparing for the worst things in the business world is needed in formal risk management. The future still can not be seen, of course, but by calculating probabilities and consequences, an organization can make intelligent decision to minimize negative impact that might occur. Thus, organizations are encouraged to manage proactively rather than reactively. If unpredictable event will happen in the future that might affect organization goals, by carrying out risk management, the organization is already prepared, for example by contingency plan or disaster recovery plan.

In this paper, the two risks that are going to be discussed in details are credit and operational risks in a chosen financial institution that is Westpac Bank for the period of 2003 to 2007.

2. Theoretical Framework

2.1. Credit Risk Management

To bank and other financial institutions, credit risk is considered crucial as it can create high level of potential losses. By definition, credit risk is the risk that counterparties default, which is failed to conform to their obligation in paying debt. Default generates a total or partial loss of the amount lent to the counterparties. Credit risk is also the risk of a decline in the credit ranking of counterparties. Such decline does not mean default, but means that the likelihood of default is increasing (Bessis, 2002).

Credit risk management includes the process of deciding on a credit application and the process of follow-up, monitoring and reporting of the credit obligation. Credit decision is made based on the borrower's financial data and the judgmental valuation of the borrower's standing in the market. The follow-up is carried out by reviewing the periodic report on the bank commitments by customers, industry and country. There is also 'warning systems' that indicate the decline of the borrower's standing before the actual default happens (Bessis, 2002).

Capital Adequacy

In this report, there are two major regulations APRA's Basel II Prudential Standards used to evaluate Westpac credit risk management, they are:

- APS 112, with regard to Capital Adequacy. The main point of the APS 112 is to ensure that all locally incorporated Authorized Deposit-taking Institutions (ADI) adopt a uniform approach to the measurement of their on and off-balance sheet credit exposures for capital adequacy purposes (Prudential Standard APS 112, Sept 2000).
- APS 113, with focus on Internal Ratings-based Approach to credit risk. The APS 133 sets out requirements that an ADI that has approval to use an internal ratings-based approach to credit risk must meet both at the time of initial implementation and on an ongoing basis for regulatory capital purposes (Prudential Standard APS 113, Sept 2000). Key requirements of the APS 113 are:
    - An ADI must quantify certain credit risk components to determine the capital requirement for a given credit exposure.
    - An ADI must have approval from APRA to use an internal ratings-based approach to credit risk for determining the institution's credit risk capital requirement.

Net Impaired Assets

Impaired assets are the loans which will most likely be uncollected. They comprise problem loans, off-balance sheet exposures and assets taken on to a bank's balance sheet through enforcement of security provisions. Impaired assets are classified into non-accrual items, restructured items and other items. Legal and specific provisions have to be set up for impaired assets to ensure that adequate fund is on hand to cover problem loan. Provisions should equal the loan's face value less the net current market value of security, adjusted for the length of time the loan has been overdue (Hogan et al. 2004).

Securitization

The purpose of using securitization method in managing credit risk is to sell off credit risk concentrations (Sathye et al. 2003). Securitization is a method of selling balance sheet assets (loans) to external investors. The basic principle is to sell assets to external investors, through an intermediate arrangement and to provide them with a return using the income flows generated by the pool of assets. These external investors do not buy the assets directly. They act as collateral in a committed structure that redirects the income flows to the investors. The investors buy the asset-backed securities issued by this structure (Bessis, 2002).

The two major categories of securitization structures are (Sathye et al. 2003):

1. Pass through structures, the loans are completely sold off the balance sheet.
2. Pay through structures, the loans are not sold off the balance sheet, rather, the cash flows are packaged into the special-purpose instrument.

2.2 Operational Risk Management

Unlike other risks, e.g. credit risk and market risk, operational risk to date is still a difficult risk to be captured and quantified. The importance of operational risk management lies on its consequences when it is failed to be managed as it covers all organizational malfunctioning. Thus, it can be fatal to an institution (Bessis, 2002).

The Australian Prudential Regulation Authority (APRA) defines operational risk is "…the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events". This definition includes, for instance, losses due to internal and external fraud, damage to physical assets, or system failures but excludes strategic and reputation risks (APS 114, 2008, p. 4).

There are five sources of operational risk in banking industry that are technology, employees, customer relationships, capital assets, and external. Operational risk also arises as the results of :

1. Business interruption from loss or damage to assets, facilities, systems or people;
2. Transaction processing from failed, late, or incorrect settlements;
3. Inadequate information system in which the security of data or system is compromised;
4. Breaches in internal controls resulting in fraud, theft or unauthorized activities;
5. Client liability resulting in restitution payments or reputation losses.

The general principle for addressing operational risk measurement is to assess the likelihood and cost of adverse events (Bessis, 2002). However, operational risk is difficult to estimate the likelihood of these contingencies from published data. "The key is to have strong internal audit procedures with follow-up to reduce exposures and for management to meticulously identify and quantify potential losses by type of event and the line of business where the event has an impact." (Koch & MacDonald, 2006).

Under the APRA's Basel II Prudential Standards 114 and 115, the capital adequacy related to operating risks are set.

- APS 114 (2007), with regards to Capital Adequacy. The aim of the APS 114 is "to ensure that an Authorized Deposit-taking Institutions (ADI) holds sufficient regulatory capital against operational risk exposures".
- APS 115 (2007), with focus on Advance Measurement Approaches to Operational Risk. It sets out requirements that an ADI that has approval to use an advance measurement approach to operational risk must meet both at the time of initial implementation and on an ongoing basis for regulatory capital purposes.

Measuring Operational Risk

In Basel II the Basel Committee on Banking Services (BCBS) suggests the calculation of a regulatory operational risk capital charge along a spectrum of three increasingly sophisticated measurement methodologies, the Basic Indicator Approach (BIA), the Standardised Approaches (SA) and the Advanced Management Approaches (AMA- also known as Internal Measurement). In addition, the BCBS provides financial institutions with general guidelines regarding the development, implementation and maintenance of sound risk management systems (Bessis, 2002).

Following the above requirement, we look at the elements of Basic Indicators Approach (BIA) and Standardised Approach (SA) in measuring the operational risk at the Westpac, they are:

- Based on Gross Income
  GI = Net interest income + net non-interest income

  Note: Provision for bad debt & operating expenses are not deducted

- Non-Lending Losses
  Examples: fraud, litigation cost, and the correction of operational issues

3. Research Methodology

Secondary data will be used in this research. It mostly includes company's data (annual reports from 2002-2007), information from journals, articles, as well as internet. Secondary data may be available which is entirely appropriate and wholly adequate to draw conclusions and answer the question or solve the problem. It is far cheaper to collect secondary data. For the same level of research budget a thorough examination of secondary sources can yield a great deal more information. Afterwards, the time involved in searching secondary sources is much less. Secondary sources of information can yield more accurate data than that obtained through primary research. It should not be forgotten that secondary data can play a substantial role in the exploratory phase of the research when the task at hand is to define the research problem and to generate hypotheses. The assembly and analysis of secondary data almost invariably improves the researcher's understanding of the marketing problem, the various lines of inquiry that could or should be followed and the alternative courses of action which might be pursued.

However, interviews with several stakeholders are also undertaken in this research. It is very useful to gather some information regarding how to manage risk properly, who will involve and responsible with this duties, and timelines for each risk management activities.

3. The Application of Risk Management In Westpac Bank

Credit Risk Management of the Westpac Bank

There are some tools designed to assist the process of managing credit risk such as the risk adjusted return on capital (RAROC) and VAR model and CreditMetrics^{TM}. Under RAROC model, capital is reserved for each loan and a hurdle rate for loans required to be attained is proposed before the bank added the loan to the portfolio. Under VAR model, the fluctuations in value of loan loss can be shown for a particular period. CreditMetrics^{TM} recognizes changes in credit risk over time. It attempts to shape portfolio risk by tracking the changes in the value of the loans by assessing the probability of credit changes (Sathye et al. 2003).

As theories and regulations underpinning credit risk management presented in the previous section, credit risk management of the Westpac Bank will be examined with the focus on capital adequacy, credit quality and securitizations.

Capital Adequacy Focus
Westpac's capital adequacy comprises of five points, they are Total Equity to Total Assets, Total Equity to Total Average, Tier 1 Ratio, Adjusted Common Equity and Total Capital Ratio (Westpac, 2008). The five points are formulated from these elements:

- Net capital ratio (%), that is Tier 1 capital ratio plus Tier 2 capital ratio less deductions.
- Tier 1 capital ratio (%), which is total Tier 1 capital as defined by APRA divided by Risk Weighted Assets (RWA).
- Adjusted Common Equity (ACE) ratio (%) is equal to shareholders funds less hybrid equity, intangible assets, investments in insurance, funds management and securitization entities and any other Tier 1 deductions. This is divided by RWA.
- Risk Weighted Assets (RWA) are assets (both on and off-balance sheet) of the Bank are assigned within a certain category and amounts included in these categories are multiplied by a risk weighting. The resulting weighted values are added together to arrive at total risk weighted assets.

Table 1 below shows that there are slightly changes in capital adequacy of Westpac for the last 5 years.

Table 1. Capital Adequacy of Westpac Bank from 2003 – 2007

Capital Adequacy	2003	2004	2005	2006	2007
Total equity to total assets (%)	6.3	6.7	6.3	5.4	4.8
Percentage		6.35%	-5.97%	-14.29%	-11.11%
Total equity to total average assets (%)	6.7	6.9	6.6	5.7	5.4
Percentage		2.99%	-4.35%	-13.64%	-5.26%
Tier 1 ratio (%)	7.2	6.9	7.2	6.9	6.5
Percentage		-4.17%	4.35%	-4.17%	-5.80%
Adjusted common equity (%)	5	4.8	4.8	4.6	4.5
Percentage		-4.00%	0.00%	-4.17%	-2.17%
Total capital ratio (%)	10.5	9.7	9.7	9.6	9.5
Percentage		-7.62%	0.00%	-1.03%	-1.04%

(Source: 5 Year Summary, www.westpac.com.au, retrieved August 15, 2008).

Credit Quality Focus
Net impaired assets in Westpac's risk management is part of the credit quality measurement. The credit quality itself is divided into two major points: Net Impaired Assets to equity and Collectively Assesed Provisions and Total Provisions to Gross Loans and Acceptance.

The impaired assets in Westpac, as defined by APRA can be concluded from the following categories:

- Non-accrual assets: Loans with individually assessed impairment provisions held against them, excluding restructured loans.
- Restructured assets: assets where the original contractual terms have been formally modified to provide concessions of interest or principal for reasons related to the financial difficulties of the customer.

Table 2. Credit Quality of Westpac Bank from 2003 – 2007

Credit Quality	2003	2004	2005	2006	2007
Net impaired assets to equity and collectively assessed provisions (%)	2.9	2.5	1.9	1.5	1.4
Percentage		-13.79%	-24.00%	-21.05%	-6.67%
Total provisions to gross loans and acceptance (basis points)	94	91	84	63	61.6
Percentage		-3.19%	-7.69%	-25.00%	-2.22%

(Source: 5 Year Summary, www.westpac.com.au, retrieved August 15, 2008)

It can be seen from Table 2 above that the both percentages of Westpac's Credit Quality showed declining trend from 2003 until 2007 which means good signs of Westpac's loans portfolio.

Securitization Focus

Currently, securitization has been proven as a good method to assist credit risk management. It is a transformation process which allows illiquid assets, for example home loans and credit card receivable to be marketable. Thus, some risk can be shifted from banks to outside investors.

Table 3. Westpac's Securitization of Loans from 2003 – 2007

Securitization of loans	2003	2004	2005	2006	2007
Amount	$2.997 million	$3.7 billion	$15.5 billion	$17.4 billion	$24.7 billion

(Source: Financial Report 2003 - 2007, www.westpac.com.au, retrieved August 15, 2008)

Based on Table 3 above, it can be inferred that the securitization of loans showed sharp increasing trend from 2003 until 2007 which means that Westpac can allocate capital more efficiently, excess diverse and cost effective funding sources, and better manage business risk.

Critical Analysis on Credit Risk Management of Westpac Bank

Based on its annual reports and five year summary, Westpac had adopted a portfolio approach in evaluating the overall credit risk of its banking business. It divides its credit risk measurement into three elements: Capital Adequacy, Credit Quality and Securitization. These three typical methodologies have been widely adopted by most banks today in their credit risk models. Also, this means that the credit risk measurements have gone deep and detailed. Moreover, risk appetite has been set up by Westpac risk committee to ensure that credit risk has been kept under the required level (Westpac, 2008). In addition to that, procedures for managing credit risk in Westpac are determined at its business levels while various risk officers are located to help making credit decisions (Westpac, 2008).

Westpac Bank has implemented various sophisticated quantitative risk measurements, such as VaR and RAROC model in credit risk evaluation process (Westpac Bank, 2008). Also, regarding to its loans, Westpac gives different credit grading which is reviewed and updated periodically (Westpac Bank, 2008). Although, assessing each borrower's credit worthy and rate them is complicated, time consuming and requires specific expertise, credit rating is an intuitive tool to assist in measuring the credit risk of borrowers

Operational Risk Management of the Westpac Bank
The Westpac Bank defined its operational risk as outlined in the APS 114 (Aspect Huntley, 2008). Westpac has risk management committee that has role in monitoring of the operational risk profile, performance of operational risk management and controls and development and ongoing review of operational risk policies. Westpac lets each business area has responsibility for the identification, measurement, monitoring and mitigation of operational risk.

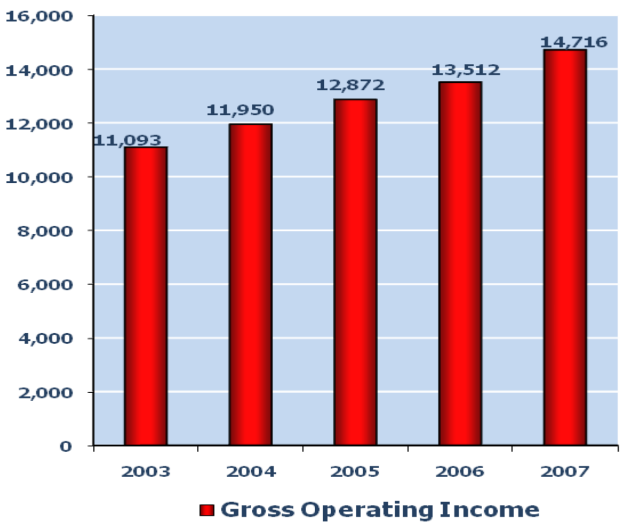
On a periodic basis, management of each business areas formally report on the effectiveness of their management of operational risk, while key matters are reported on a quarterly basis. Active input from key corporate centre function such as legal, finance, human resources, risk management, operational risk and compliance and internal audit support this process.

Another point in Westpac is some of the key management and control techniques include segregation of duties, clear delegation of authority, sound project management, change control disciplines and business continuity planning. Westpac control environment is enhanced by a focus on staff competency and supervision. Westpac internal audit function independently appraises the adequacy and effectiveness of internal control environment and reports its results separately to CEO and Board Risk Management Committee (Aspect Huntley, 2008).

Gross Operating Income (GI)

This approach is based on gross operating income (GI) where provision for debt and operating expenses are not deducted. GI is the total revenue the bank generated from its continuous business, which to show the bank operational performance.

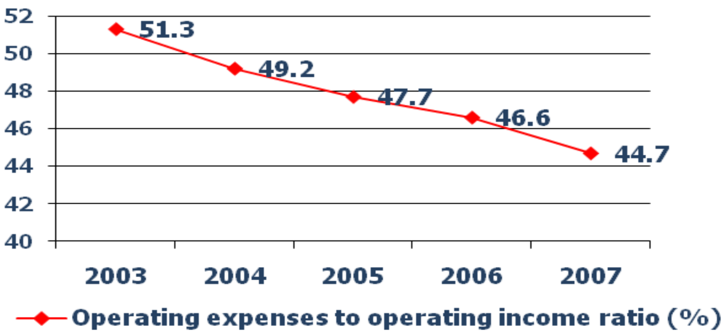
Graph 1. Westpac's Gross Operating Income from 2003 – 2007



(Source: 5 Year Summary, www.westpac.com.au, retrieved August 15, 2008)

Graph 1 indicates the increasing trend of GI in last five years. This shows that Westpac is successful in managing its operational risk. It is also supported by graph 2 below that indicates the decreasing trend of operating expenses to GI ratio. Both two graphs reflect the operational risk management has contributed great value to Westpac revenue. This also indicates Westpac efficiency in its operations.

Graph 2. Westpac's Operating Expenses to Operating Income Ratio from 2003 – 2007

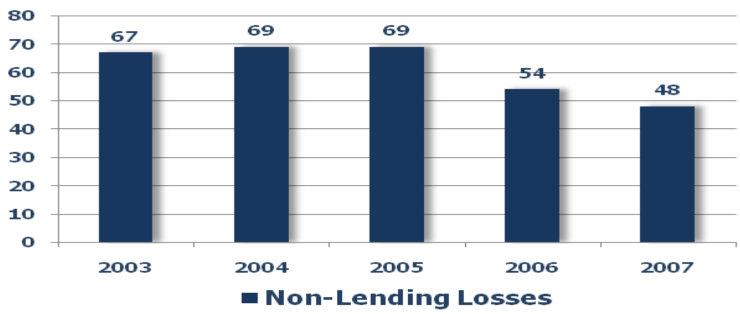


(Source: 5 Year Summary, www.westpac.com.au, retrieved August 15, 2008)

Non-Lending Losses (NLL)

Non-lending losses (NLL) includes fraud, litigation cost, and the correction of operational issues. It shows the fraction of cost of operating expenses used to cover such cost arisen from Westpac's exposures to the operational risk due to internal failure (i.e. fraud, litigation costs). From annual report in last five years, NLL that slightly increased from 2003 to 2004 can be minimized from 69 million in 2005 to 48 million in 2007. This also reflects the success of Westpac to reduce its operational exposures due internal process.

Graph 3. Westpac's Non Lending Losses from 2003 – 2007



(Source: 5 Year Summary, www.westpac.com.au, retrieved August 15, 2008)

Critical Analysis on Operational Risk Management of Westpac Bank

As shown previously, GI and operating expenses to GI ratio indicate that the Westpac has become more efficient in doing its business. However, the use of Westpac's annual gross income as measurement basis under the BIA and SA might not lead to satisfactory results. GI would have failed as risk indicator, because of the unethical and fraudulent behaviour of individuals. Further, the assumption of a linear relationship between a financial institution's level of GI and its required operational risk capital charge might give financial institutions perverse incentives to increase risk levels over time to maintain their target profitability.

The second measurement (i.e. non-lending losses) indicates the Westpac managed to reduce its exposure to operational risk due internal failure (i.e. fraud). However, it also could fail as an "early warning" indicator as it was based on historical data.

In light of the disadvantages of both above-mentioned indicators, Westpac has implemented other sophisticated AMA such as balance scorecard, scenario based which includes economic analysis to the operational risk management (Aspect Huntley, 2008).

Motives for WestPack to mitigate risks

The first motive that forces Westpack to take action in mitigating risks is profit. Human nature leads most people to think most about the profit they hope to achieve in business. However successful risk management means investors should firmly establish where they will exit a losing position and how much that will cost them. Once the exit rate is established the investor should leave a 'stop loss' order with the broker. This means that should the market move against the investor overnight the broker will automatically cut the position thereby limiting the potential for further losses. Westpac needs to be especially mindful of risk management when engaged in financial transaction and trading. The banking industry operates 24 hours and explosive movements can occur at any time which means Westpac can find itself facing significant losses unless their risk is managed properly.

Secondly, fiduciary obligation is considered as another motive to tackle risks. Announcing the outcome of the debate, ARPI president Tony Charge said: "Risk management needs to be regulated not by mandatory methods, guidelines and practices based on the existing Australian or draft international standards but by performance-based principles with the force and sanction of law. "This means that governments and industry leaders must apply a set of risk policy principles to ensure that businesses and governments exercise their 'duty of care' to regain and maintain the trust of society in corporate and government decision-making. The global financial crisis was probably avoidable through better, risk-informed decision-making and must not be allowed to recur." The institute proposes the following risk policy principles to be the subject of a uniform global approach:

- Risk (impacts that might happen) must be part of corporate and government decisionmaking;
- Boards, leaders and executives must be required by law to take into account risk management;
- Personal legal sanctions must apply to board, leader and executive negligence in failing to consider risks;
- Disclosure of material risks to a business or government to become a legal obligation; Regulatory authorities to have investigative, naming and prosecutorial powers; and
- Boards, leaders and executives to be responsible for promoting a demonstrable culture of risk management through sound "enterprise" or "integrated" risk management practices visibly operating across organisations.

Furthermore, ethical consideration will be assumed as another motive. Since the publicity of numerous corporate scandals, the interest in compliance and ethics has created an important role for senior management to incorporate preventive maintenance measures for risk assessment and ethical violations. This is a change for senior management because past responsibility was placed upon the legal department.

Lastly, it is all about reputation. As risk management continues its evolution, reputation management is emerging as a key issue for all enterprises. Managing reputation is therefore an essential part of the strategic role of the board of directors, who must take into account all stakeholders, whose perception of the organisation will determine its reputation. Risks or uncertainties, both positive and negative, must be managed in a holistic systemic approach, as there is no such thing as reputation risks – rather, all risks may impact on reputation. Thus the best management of risks to reputation is sound enterprise-wide risk management and governance, where all insiders are involved and outsiders' interests are taken into account. When a crisis threatens, it is a time of exacerbated reputation volatility. Preparing a strategic redeployment plan is therefore the best way for management to be prepared to cope positively with the surprises of the future.

Conclusion

In conclusion, after examining the Westpac Bank's credit risk management by focusing on capital adequacy, credit quality and securitization, also operational risk by concerning on the gross income and non-lending losses for the last five years, and then critically evaluating the measurements which Westpac adopt in its credit risk management process, it is fairly reasonable to conclude that Westpac has obtained a effective credit risk management system to ensure its cash and other economic resources are secured to certain extent.

Recommendation

Examination on the credit risk management conducted by the Westpac Bank has indicated that the bank has placed adequate efforts to ensure that credit and operational risks are managed carefully. It is recommended that Westpac Bank must continue the good efforts and update the existing credit and operational risk management with the more sophisticated risk management tools available.

Specifically, related to Westpac's credit risk management it is hoped that Westpac Board of Risk Management must maintain its roles and responsibilities. Not only that, it is expected that Westpac keeps applying VAR and RAROC. Subsequently, Westpac should keep using securitization to manage credit risk. Lastly, Westpac can implement one new approach, which is Advanced Internal Rating Base (AIRB).

Related to Westpac operational risks, it is recommended that Westpac should move toward application of APS 115 to improve ways in dealing with operational risks. Also, staff training is used to encourage and to empower staff's awareness of risks related to operational.

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