ENTERPRISE RISK MANAGEMENT (ERM) & BANK PROFITABILITY PERFORMANCE IN AUSTRALIAN BANKING INDUSTRY

By

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PANEL OF EXAMINERS
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The Panel of Examiners declares that the skripsi entitled **"ENTERPRISE RISK MANAGEMENT (ERM) & BANK PROFITABILITY PERFORMANCE IN AUSTRALIAN BANKING INDUSTRY"** that was submitted by Jeremy Widjaja majoring in Management from the Faculty of Business was assessed and approved to have passed the Oral Examinations on January 15, 2019.

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I declare that this skripsi, entitled **"ENTERPRISE RISK MANAGEMENT (ERM) & BANK PROFITABILITY PERFORMANCE IN AUSTRALIAN BANKING INDUSTRY"** is, to the best of my knowledge and belief, an original piece of work that has not been submitted, either in whole or in part, to another university to obtain a degree.

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ABSTRACT

The purpose of this study is to analyse the influence of Enterprise Risk Management (ERM) Implementation towards Bank Profitability Performance in banking industry. Continuing the study of Liem in 2018 in Indonesia, this study focus is in Australia as its comparison. Since Australia is the neighbour country of Indonesia, Australia, as a developed country could act as a great comparison subject for Indonesia, a developing country. This study emphasises on ERM Index and ERM Dimension to analyse the ERM implementation and Net Interest Margin and Return on Average to analyse the Bank Profitability Performance. This study main research question: ***"Is there any influence of ERM Implementation towards Bank Profitability Performance?"*** The analysis of this study uses Panel Data Generalized Least Squares (GLS) Regression by STATA M-64. The result of this study confirms that ERM Index has positive influence toward Bank Profitability Performance. However, this study still unable to confirms the influence of ERM Dimension toward Bank Profitability Performance due to inconsistency results. Therefore, this study encourage future researcher to conduct a deeper research regarding the influence of ERM Implementation towards Bank Profitability Performance with a wider range of sample.

Keywords: *ERM Implementation; ERM Index; ERM Dimension; Bank Profitability Performance.*

CHAPTER I
INTRODUCTION

1.1 Background

The main goal of every company is to increase their firm value. In order to do that, a well-established management is necessary, especially in financial management. Afterall, quoted from Liem's (2018) study, according to Keown et al. (2014), a firm's value is assessed by its profitability ratios. Therefore, it is important for a firm to manage their risk (Olson et al, 2008; Eckles et al, 2014). As a matter of fact, previous studies have shown that managing risk has positive influence toward the firm value (Allayanmis and Weston, 2001; Jin and Jorion, 2006).

For years, managing risk has been done through a Siloed approach. This mean, each department of a firm assess and manage their own risk. In 1970s, risk management was used to reduce pure risk related loss through insurance (McShane, 2011). In 1996, an argument coming from Stulz stated that by reducing cost of capital and taxes, risk management is able to reduce any unpredictability and potential of bankruptcy, which finally leads to increasing a firm's value.

However, recently the role of risk management faces a change in a firm. It is currently known as Enterprise Risk Management (ERM) (Power, 2004; Nocco and Stulz, 2006). Following the ERM, risks are now assigned ownership with accountability. It was originally proposed by COSO (2004), focusing on non-financial industry.

As years goes by, due to further development (Lechner and Gatzert, 2017), ERM conceptual framework has become relevant. This framework by COSO (2004) has the ability to improve a firm's performance (Power, 2009). In addition, Gordon et

al. (2009) developed ERM Index with ERM conceptual framework (COSO, 2004) as its foundation. Through the four risk management objectives, Gordon et al. (2009) stated that ERM Implementation, which in this case described as ERM Index, has positive influence towards non-financial firms' performance, industry. The four risk management includes:

a. Strategy: relation with market
b. Operating: the relation of the bank's input and output in the business process
c. Reporting: the number of report in order to assess the bank's reporting reliability
d. Compliance: compliance towards existing rules and regulation created by the legal entities such as government

1.1.1 Need of Study

Since ERM is not a common academic topic to be discussed, the researchers feel the need of this study. In addition, despite being used as a benchmark to assess firms' performance, the usage of ERM is still limited to non-banking industry. Therefore, it is necessary to conduct this study.

1.2 Problem Statement

Since COSO (2004) focuses on non-financial industry, even with the development of ERM Index (Gordon et al, 2009), the academic discussions regarding ERM Implementation towards the performance of a firm is still limited to a small amount (Arena and Arnaboldi, 2014), especially in banking industry. Therefore, this study is discussing about ERM Implementation and its influences towards Bank Profitability Performance to give a better understanding of this topic.

Previously, Liem (2018) has discussed ERM Implementation toward bank performance. In Liem's study, the subjects being assessed are 4 banks in Indonesia, including Bank Mandiri, Bank Negara Indonesia, Bank Rakyat Indonesia, and Bank Tabungan Negara. In this study, in order to widen the variety of the research, the subjects being assessed are the top 4 banks in Australia, including Commonwealth Bank, Westpac, ANZ, and NAB. Considering how Australia is the neighbour country of Indonesia and a multicultural country, similar to Indonesia, the

researcher feels Australia is the right subject. In addition, Australia is a developed country. Therefore, Australia can act as a comparison with Indonesia, a developing country.

1.3 Research Questions

Responding to the problem statement mentioned above, this study discusses the main research question as follow:

Is there any influence of ERM Implementation towards Bank Profitability Performance?

To identify the main research questions, another 6 research questions are created as follow:

1. Does ERM Index has positive influence toward Net Interest Margin?
2. Does ERM Index has positive influence toward Return on Assets?
3. Does Information of Financial Risk has positive influence toward Net Interest Margin?
4. Does Information of Financial Risk has positive influence toward Return on Assets?
5. Does Information of Risk Response has positive influence toward Net Interest Margin?
6. Does Information of Risk Response has positive influence toward Return on Assets?

1.4 Research Objectives

From the Research Questions stated above, the objective of this study is:

To find out is there any influence of ERM Implementation towards Bank Profitability Performance.

To achieve the research objective, 6 research objectives are created as follow:

1. To find out is there a positive influence of ERM Index towards Net Interest Margin
2. To find out is there a positive influence of ERM Index towards Return on Assets

3. To find out is there a positive influence of Information of Financial Risk towards Net Interest Margin

4. To find out is there a positive influence of Information of Financial Risk towards Return on Assets

5. To find out is there a positive influence of Information of Risk Response towards Net Interest Margin

6. To find out is there a positive influence of Information of Risk Response towards Return on Assets

1.5 Significance of Study

This study helps to give understanding and insights regarding the relation of ERM Index and ERM Dimensions towards Net Interest Margin and Return on Assets. Therefore, this study will be beneficial for:

1. Academic World

   This study can be used to support further studies regarding ERM Implementation and Bank Profitability Performance.

2. Banking Industry

   This study can help banking industry to use ERM, which until now is limited to non-banking industry, to improve performance.

1.6 Limitation

The study has several limitations:

a. The banks being used as the subject of the study are the top 4 banks in Australia.

b. The period of data taken is from 2016-2017

1.7 Thesis Organization

This study are organized as follow:

1. Chapter 1 Introduction: Background of the study explaining why this study needs to be conducted, including the problems, research questions, and research objectives.

2. Chapter 2 Literature Review: Definitions and Theories which supports this study.

3. Chapter 3 Research Methodology: The methods of the research.

4. Chapter 4 Results and Discussions: The result of the research and its discussion.

5. Chapter 5 Conclusion: Conclusion of the study, and recommendation for further research in the future.

CHAPTER II
LITERATURE REVIEW

2.1 Grand Theory

Development of the concept of risk has last for thousands of years. However, different sources have shown that there has been no definite definition of risk (Aven & Renn, 2009). Since risk talks about future events and its consequences, and in addition could be influenced by unlimited factors, it still cannot be defined. As a matter of fact, there is still ongoing debate regarding risk's definition (Aven & Renn, 2009).

Despite the ongoing debate, in order to avoid loss, researchers has tried to manage risk through risk management (Georges Dionne, 2013). According to Laurence et al. (2013), the first step to manage risk is to identify and classify any prospective risks. The five primary sources of risks includes (Laurence et al, 2013):

1. **Production Risk** – risks involving any event or activity related to production. Several example of the main sources of production risks are climate changes, diseases, the quality of inputs, or pests. Fire, theft, and other casualties are also production risk's sources.

2. **Marketing Risk** – market related activities that influence variability of goods' prices. Access to markets is included as marketing risk.

3. **Financial Risk** – risks that danger the financial condition of a business. It has four basic components, which are:
   a. The cost and availability of capital
   b. The ability to meet cash flow needs in a timely manner
   c. The ability to maintain and grow equity
   d. The ability to absorb short-term financial shocks.

4. **Legal Risk** – risks related to legal implications. Commonly, legal risks are categorized into 5 category which are:
   a. Contractual arrangements
   b. Business organization

      c. Laws and regulations

      d. Tort liability

      e. Public policy and attitudes.

5. **Human Risk** – risks related with safety, satisfaction, and productivity of human resources. It can be summarized into several main categories:

      a. Human health and well-being

      b. Family and business relationships

      c. Employee management

      d. Transition planning.

2.1.1 Enterprise Risk Management

In 2004, Committee of Sponsoring Organization of the Treadway Commission (COSO) developed the management in order to channel opportunities, which could either be a negative or a positive, back to the main goal. It is called Enterprise Risk Management (ERM). ERM handles risks and opportunities which has effect towards value creation. According to COSO, several points which describes ERM are:

a. A process

b. Influenced by board of directors, management, and other personnel

c. Applied in strategy setting

d. Applied at every level of an organization

e. Identify potential events which could affect the entity

f. Manage risks

g. Provide reasonable assurance

h. Focused on to achieve the main goals of the firm

This framework is designed to achieve the 4 categorization of a firm's objectives (COSO, 2004), which are:

a. **Strategic** – high-level goals, supporting its mission

b. **Operations** – efficient and effect usage of resources

c. **Reporting** – reliability of reporting

d. **Compliance** – compliance with existing laws and regulations

ERM consists of 8 components which are related to each other. These components are obtained from how the management runs the company combined with the process (COSO, 2004). The components are:

a. Internal Environment – The internal environment sets the foundation of how risk is assessed and managed by the people, such as risk management philosophy and risk appetite. In addition, integrity, ethical values, and environment is also included in Internal Environment.

b. Objective Setting – Before management could identify potential risks, the existence of objectives are necessary. ERM ensures the management has set objectives and making sure the objectives support with the mission and vision of the firm. In addition, ERM also ensures that these objectives are consistent with the risk appetite.

c. Event Identification –Any events which could affecting a firm to achieve its objectives must be identified. These events could be external or even internal. This kind of events have to be distinguished between risks or opportunities. Opportunities events will be proceed to the management's strategy.

d. Risk Assessment – Risks are analyzed, by considering chances of happening and how great it could affect the firm as a foundation to determine how it will be managed.

e. Risk Response – Some form of responses while managing risks are avoiding, accepting, reducing, or sharing risk. From these responses, action plans are developed to respond balance risks with the firm's risk tolerances.

f. Control Activities – Establishment and implementation of policies and procedures to help ensure the application of risk responses are effective.

g. Information and Communication – Identifying, capturing, and communicating related information in a form and timeframe which helps people to fulfill their responsibilities. Communication can be considered effective only if it occurs not only to several level of a firm, but to all level.

h. Monitoring – The whole ERM is monitored and modified as needed. Existing activities of the management, separate evaluations, or both helps the accomplishment of Enterprise Risk Management.

2.1.2 ERM Index

The popular general argument stated in literatures is that ERM Implementation has positive influence towards firm performance (COSO, 2004; Nocco and Stulz, 2006; Hoyt and Liebenberg, 2009). However, Gordon et al. (2009) argued that ERM and performance can only have positive influence if affected by 5 specific firm factors. The 5 specific firm factors are environmental uncertainty, industry competition, firm complexity, firm size, and board of directors' monitoring. Gordon et al. (2009) believed that if the ERM system and the 5 factors are aligned, only then the ERM-Performance relation will be established. Therefore, Gordon et al. (2009) developed ERM Index (ERMI) which help firms to assess their ability to achieve their goals relative to the 4 objectives categorization by COSO (2004). The main formula of ERMI is as follow:

$$\text{ERM Index} = \Sigma \text{ Strategy} + \Sigma \text{ Operating} + \Sigma \text{ Reporting} + \Sigma \text{ Compliance}$$

Strategy

Strategy talks about the relation of the firm within the market. In the same industry, all market will compete to gain sales from similar target market. Therefore, each firm will set their strategy to position itself with a competitive advantage, compared with other competitor (Gordon et al. 2009). In 2018, Liem (2018) helped banking industry by formulating an equation to measure the strategy of a financial institution. The equation is:

$$\text{Strategy} = \frac{(\text{Interest Income} - \text{Average Commercial Banks Interest Income})}{\sigma \text{ Interest Income}}$$

Operating

Operating talks about the relation of the bank's input and output in the business process. Higher efficiency and effectivity of resources usage should reduce the risk

of failure (Gordon et al. 2009). To measure the operating of banking industry, Liem (2018) developed an equation as follow:

$$\text{Operating} = \frac{\text{Interest Income}}{\text{Total Assets}}$$

Reporting

The easiest way to understand reporting is reporting reliability. Any illegal activities will be a proof of poor reporting quality. Higher reporting score should increase performance and reduce risks of failure (Gordon et al. 2009). The equation below is used to calculate the reporting reliability of banking industry (Liem 2018):

Reporting = (Material Weakness) + (Auditor Opinion) + (Restatement)

Material Weakness = Dummy Variable
It is set to (-1) if the Bank discloses any material weakness in its US$ 10K, otherwise is set to (0)
Auditor Opinion = Dummy Variable
It is set to (0) if the Bank has unqualified auditor opinion in its US$ 10K, otherwise is set to (-1)
Restatement = Dummy Variable
It is set to (-1) if the Bank announces restatement, otherwise is set to (0)

Compliance

Compliance shows whether the firms are following the existing laws and regulations created by the legal entities such as government. Higher compliance towards the laws and regulations will reduce the risk of failure. It is reasonable that by increasing regulation compliance, a firm will lower their settlement losses and increase settlement gains (Gordon et al. 2009). Compliance in banking industry is measured by the equation stated below (Liem 2018):

$$\text{Compliance} = \frac{\text{External Auditor Fees}}{\text{Total Assets}}$$

2.1.3 ERM Dimension

ERM Dimension is the components of ERM. These components are taken from how the firm runs their business and combined with its management process.

Information of Financial Risk

According to Laurence Crane et al. (2013), financial risk are risks related to events which could harm the financial condition of a firm. The four basic components of financial risks are (1) the cost and reserve of capital, (2) the ability to fulfill cash flow requirements in time, (3) able to preserve and increase equity, (4) the ability to receive unexpected short-term financial loss (Laurence Crane et al, 2013). To manage this risk, cash flow will be a vital key.

According to COSO (2004), Information of Financial Risk is any Information of identified internal or external events which affect achievement of the entity's objectives. These events should be distinguished whether it is a risk or an opportunity. The opportunities will be proceed to the management's strategy.

Information of Risk Response

In order to respond to risks a firm could avoid, accept, reduce if possible, or even share risk. Any acts that a firm choose will be developed into action plans to face the risks itself. These action plans will be made based on the firms' risk tolerances and risks appetite (COSO, 2004)

2.1.4 Bank Profitability Performance

Commonly, there are 3 measurements of bank performance. These 3 measurements are Net Interest Margin (NIM), Return on Assets (ROA), and Equity Multiplier (EM) (Liem, 2018).

Net Interest Margin (NIM)

NIM is defined as a percentage to describe how sensitive and elastic a bank is towards interest rate risk (Fathi et al, 2012). A high NIM would indicates a good management of assets and liabilities. Vice-versa, a low NIM is a sign of a profit squeeze (Fitsum Ghebregiorgis and Asmerom Atewebrhan, 2016). NIM is calculated by using this formula (Liang et al, 2013):

$$NIM = \frac{\text{Net Interest Revenue}}{\text{Total Assets}}$$

Return on Assets (ROA)

ROA is the ratio to measure a bank's performance. According to Fitsum Ghebregiorgis and Asmerom Atewebrhan, ROA is the widespread formula to assess bank profitability. It is often used as an overall index of profitability. A high ROA indicates an efficient operations of a bank (Fitsum Ghebregiorgis and Asmerom Atewebrhan, 2016). ROA is defined as a percentage through this formula (Kosmidou, 2008):

$$ROA = \frac{\text{Net Profit After Tax}}{\text{Total Assets}}$$

This ratio shows the returns percentage from the total assets that the bank has (Bouzgarrou et al, 2017).

2.2 Previous Studies

Table 2.2: Previous Studies

No	Title	Author(s)	Year	Results
1	Business Horizons: The Challenges of and Solutions for Implementing Enterprise Risk Management	John R.S. Fraser and Betty J. Simkins	2016	This article provide the basic steps of implementing ERM to help firms face the existing challenges
2	Advances in Accounting: Does Enterprise Risk Management Enhance Operating Performance?	Carolyn Callahan and Jared Soileau	2017	This article supports that there is significant positive influence of ERM Maturity towards Industry's Operating Performance in non-financial industries.

3	The British Accounting Review: Enterprise Risk Management and Firm Performance: The Italian Case	Cristina Florio and Giulia Leoni	2016	This article tests the relationship of ERM and Italian companies' performance. The result supports that better ERM implementation does resulting in better performance, both in financial performance and market evaluation
4	Management Accounting Research: Managing risk in credit cooperative banks: Lessons from a case study	Adele Caldarelli, Clelia Fiondella, Marco Maffei, and Claudia Zagaria	2015	This article explains ERM role in credit cooperative banks to acquire both social and economic goals. In addition, this article also suggests several necessary practical steps in order to achieve the goals.

5	Journal of Financial Reporting and Accounting: Determinants of ERM implementation: the case of Tunisian companies	Sana Masmoudi Mardessi and Sonda Daoud Ben Arab	2018	This article strengthen the positive relation of risk management towards corporates' values by assessing 70 studies relating to risk management.
6	J. Account. Public Policy: Enterprise risk management and firm performance: A contingency perspective	Lawrence A. Gordon, Martin P. Loeb, and Chih-Yang Tseng	2009	This article argued that ERM and performance can only have positive influence if affected by 5 specific firm factors which are environmental uncertainty, industry competition, firm complexity, firm size, and board of directors' monitoring. Gordon et al. believed that if the ERM system and the 5 factors are aligned, only then the ERM-Performance relation will be established. Therefore, this study

				developed ERM Index to respond to this issue.
7	Enterprise Risk Management in Banking Industry	Christina Liem	2018	This article discusses about ERM Implementation in banking industry which is still considered to be rare. Liem focused on how ERM Implementation could influence banking performance. In this article, Liem used 4 state-owned commercial banks in Indonesia and the 3 common measurement of bank performance (NIM, ROA, EM) as the research subject. Liem's study supports the positive influence of ERM Implementation to ward bank performance.

2.3 Research Gap

This study focuses to support Liem's (2018) study that stated ERM Implementation has positive influence towards Bank Profitability Performance. In order to widen the research, this study attempt its research from Banking Industry in Australia.

CHAPTER III
RESEARCH METHODOLOGY

3.1 Theoretical Framework

This study uses 2 kinds of variables, which are dependent and independent variables. The dependent variables are the Bank Profitability Performance. In this study, this variable is described by Net Interest Margin and Return on Assets. Meanwhile, the independent variables are ERM Index and ERM Dimensions, which in this study is focused more in Information of Financial Risk and Information of Risk Response.
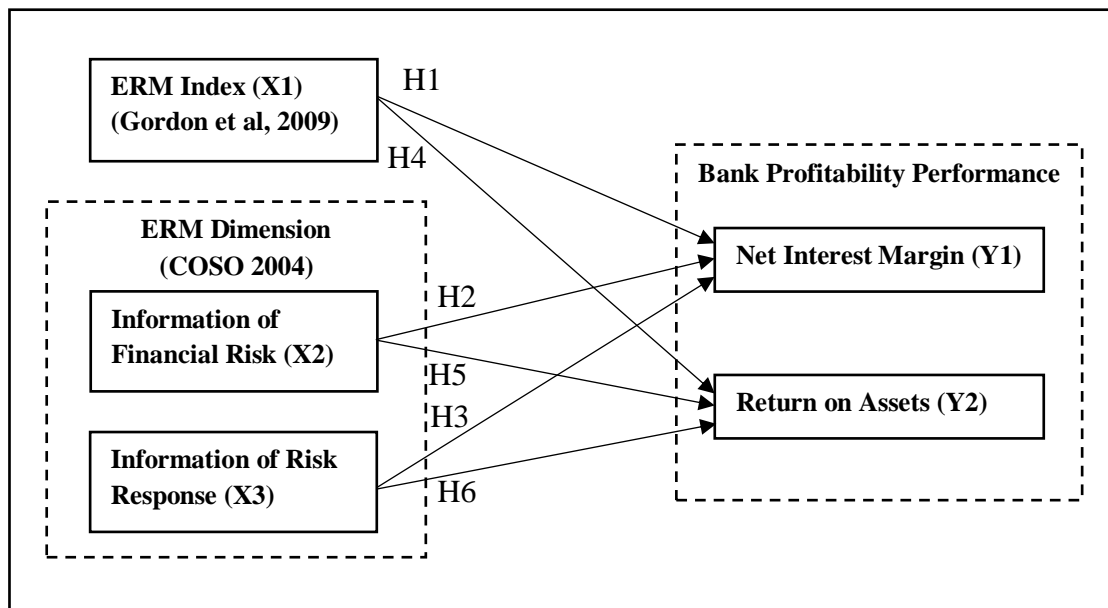

Figure 3.1 Theoretical Framework

Source: Researcher, 2018

3.2 Hypothesis

Based on previous study, the researcher has developed 6 hypotheses as follow:

H1: ERM Index has positive influence toward Net Interest Margin

H2: ERM Index has positive influence toward Return on Assets

H3: Information of Financial Risk has positive influence toward Net Interest Margin

H4: Information of Financial Risk has positive influence toward Return on Assets

H5: Information of Risk Response has positive influence toward Net Interest Margin

H6: Information of Risk Response has positive influence toward Return on Assets

3.3 Operational Definitions

No.	Variable	Definition
1.	ERM Index (Gordon et al, 2009)	ERM Implementation by assessing 5 firm factors which believed to affect the performance of a firm's ERM. The factors are as follow: 1. Environmental Uncertainty 2. Industry Competition 3. Firm Complexity 4. Firm Size 5. Board of Directors' Monitoring
2.	Information of Financial Risk (COSO, 2004)	Information of any identified internal or external events which affect achievement of the entity's objectives. These events should be distinguished whether it is a risk or an opportunity.
3.	Information of Risk Response (COSO, 2004)	Information of how management respond to risks, whether to avoid, accept, reduce, or share risk. Also how management develop action plans to face the risks.
4.	Net Interest Margin (NIM) (Liang et al, 2013; Fathi et al, 2012)	The sensitivity and elasticity of a bank towards interest rate risk. NIM is defined as a percentage through this formula: $$\frac{\text{Net Interest Revenue}}{\text{Total Assets}}$$

5.	Return on Assets (ROA) (Kosmidou, 2008; Bouzgarrou et al, 2017)	The ratio to measure a bank's performance. ROA is defined as a percentage through this formula: $$\frac{\text{Net Profit After Tax}}{\text{Total assets}}$$ This ratio shows the returns percentage from the total assets that the bank has.

Table 3.1: Operational Definitions
Source: Researcher, 2018

3.4 Research Design

This study uses numerical form to manage the data being used. Both the data collection and result is in numerical form. The data then is analyzed using statistic model. Therefore, this study uses quantitative analysis as its type of research. According to Kothari (2004), quantitative research is based on quantity measurement and applicable only to phenomena which can be expressed in terms of quantity.

3.4.1 Panel Data

Panel data sets, also called as longitudinal data, observes data from different entities or individuals through equally spaced time and in a particular time period (Seetaram & Petit, 2012). This study uses panel data sets to analyze the result of the research question. The entities and time period being used are: 4 (four) banks and 2 (two) years.

3.4.2 Random Effect

Random Effect, also known as multilevel or mixed models is one of the models which is commonly used in regression method. According to Clarke et al (2010), Random Effect Model is more efficient than the other model, Fixed Effect. By using the Random Effect Model, the results of this study can be applied to the population, not only the sample being used in this study.

3.4.3 Research Instrument

This study collects secondary data from existing sources, such as official bank's website, annual report, books, supporting websites, and journals. The collected raw

data is organized using Microsoft Excel. The raw data is analyzed using STATA as the statistic software

3.5 Data Sampling

The type of sample used in this study is convenience sampling, which is one of the five type of non-probability sampling. This type of sampling requires the subject of the population to fulfill the criteria set by the researcher in order to become the sample.

In this study, the population is banking industry. The criteria set by the researcher is the top 4 banks in Australia. Therefore, the sample being used in this study includes Commonwealth Bank, Westpac, ANZ, and NAB. Since ERM has been implemented only recently, the observation unit is limited to 2 years 2016-2017.

3.6 Data Collection Method

This study collect existing secondary data through from available sources, such as official websites. The data being collected are annual reports of the top 4 banks in Australia, including Commonwealth Bank, Westpac, ANZ, and NAB. The annual reports ranging from 2016 to 2017. Any other supporting data or tables are taken from supporting sources such as journal and supporting websites.

CHAPTER IV
DISCUSSION

4.1 Bank Profile

This study answer the research question by assessing the ERM Index of the Top 4 Banks in Australia as listed below:

ANZ (The Australia and New Zealand Banking Group Limited)

The Australia and New Zealand Banking Group Limited, abbreviated into ANZ, is one of the big 4 banks in Australia headquartered at ANZ Centre Melbourne, Level 9, 833 Collins Street, DOCKLANDS, VIC, AUSTRALIA, 3008. This bank with total assets of A\$ 897,326,000,000 was formerly founded as the Bank of Australasia in 1835 until its merger with Union Bank of Australia in 1951 to become what it is known nowadays. To grow even larger, in 1969, to be exact on 30 September, ANZ issued its first share to enter capital market. Since its initial public offering (IPO), ANZ has grown to become the 3rd largest bank assessed from its market capitalization with A\$ 73.74 billion from 2,873,618,118 number of shares following Commonwealth Bank and Westpac Banking Corporation. With the help of 46,554 employees around the world in 2017, ANZ is striving to realize its vision to help shape a world in which people and communities thrive.

Commonwealth Bank (The Commonwealth Bank of Australia)

Established since 1911 by the Commonwealth Bank Act 1911, Commonwealth Bank of Australia or simplified as Commonwealth Bank is an Australian multinational Bank with the largest market capitalization in Australia. Since its first initial public offering (IPO) on September 12th, 1991, Commonwealth Bank has issued 1,770,239,507 total shares. Despite the considerably smaller amount of outstanding shares, Commonwealth Bank proved their dominance in Australia's banking industries with its market capitalization amounting to A$ 120.66 billion. In addition its total assets reached A$ 976,374,000,000, managed by 10 directors and the help of 51,800 employees around the world in 2017 to run their business. Its headquarter is located at Ground Floor, Tower 1, 201 Sussex Street, SYDNEY, NSW, AUSTRALIA, 2000.

NAB (National Australia Bank)

Following behind ANZ, National Australia Bank Limited or mostly known as NAB is the 4th largest banks in Australia assessed by its market capitalization. In 1982, National Bank of Australasia and the Commercial Banking Company of Sydney merged to become National Commercial Banking Corporation of Australia Limited until it was renamed National Australia Bank Limited. This bank was listed in the stock exchange market before the merger, to be exact on January 1st, 1974. Currently, its number of shares has reached 2,734,119,600 with A$ 68.65 billion market capitalization and its total assets reached A$ 788,325,000,000. Headquartered in Level 1, 800 Bourke Street, DOCKLANDS, VIC, AUSTRALIA, 3008, this bank has approximately 33,000 employees around the world in 2017.

Westpac (Westpac Banking Corporation) 1817

Westpac Banking Corporation, or Westpac is the first bank in Australia. In 1817, it was established as the Bank of New South Wales (BNSW) in Sydney. Only until 1982, when they merged with Commercial Bank of Australia, and rename themselves to Westpac. Currently, its headquarter is located in C/- Group Secretariat, Level 18, 275 Kent Street, SYDNEY, NSW, AUSTRALIA, 2000 with A$ 851,875,000,000 and 35,096 employees around the world in 2017. Proving its worth as the first bank in Australia, Westpac is the 2nd largest bank assessed by its market capitalization. Listed in the stock exchange market since July 18th, 1970 when the bank was still listed BNSW until 2017, the bank has issued 3,434,796,711 outstanding shares with A$ 92.19 billion market capitalization.

4.2 Descriptive Analysis

In order to answer the research question, this study focuses in Enterprise Risk Management (ERM) Index research. The assessment is divided into 4 dimension of

ERM which are Strategy, Operating, Reporting, and Compliance. According to Lawrence A. Gordon (2009), strategy dimension talks about how the bank stands against their competitor in the market. While strategy dimension talks about the relation of the firm within the market, operating dimension look from the relation of the bank's input and output in the business process. Just like its name, reporting dimension is assessed based on the number of report in order to assess the bank's reporting reliability. Last but not least, compliance dimension decides whether the banks are following the existing rules and regulation created by the legal entities such as government. From the 4 dimension, ERM Index is calculated with the following formula (Gordon et al, 2009):

$$\text{ERM Index} = \Sigma \text{ Strategy} + \Sigma \text{ Operating} + \Sigma \text{ Reporting} + \Sigma \text{ Compliance}$$

The calculation is based on the annual reports on year 2016-2017 of the 4 banks being discussed. The result for each dimension are ranked in order to see which bank perform better than the other out of the top 4 banks of Australia. The result of every dimension of ERM Index from each banks can be seen in Table 1.

ERM Index

Table 1: ERM Index of Top 4 Banks in Australia in 2016

Bank	2016									
	Strategy		Operating		Reporting		Compliance		ERM Index	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
ANZ	12.34108	3	0.0327	4	-2	1	0.00235%	3	10.3738	3
Common-wealth Bank	13.93621	1	0.0362	2	-2	1	0.00350%	1	11.9724	1
NAB	11.38301	4	0.0355	3	-2	1	0.00111%	4	9.4185	4
Westpac	13.12990	2	0.0379	1	-2	1	0.00309%	2	11.1678	2

Source: Annual Report, 2016

Being the largest bank in Australia, Commonwealth Bank proved their quality through ERM Index in 2016. As the result being shown in Table 1, Commonwealth

Bank ranked 1ˢᵗ from almost every index, lacking behind only in operating index though still with a high rank. Following Commonwealth Bank is the first and oldest bank in Australia, Westpac. As a matter of fact, Westpac is the one who beats Commonwealth Bank in operating index. Ranking 3ʳᵈ and 4ᵗʰ, in order are the ANZ Bank NAB. This ERM Index result is quite expected considering their rank from market capitalization where Commonwealth Bank leads the industry and NAB being the last out of the top 4 Banks in Australia.

Looking from the strategy and compliance index, the result is similar with the calculated ERM Index. Remembering how strategy describes the relation between the market with the bank, as the top 1 bank in Australia, with no question Commonwealth Bank customers have great trust towards their bank. In order to deliver certainty and security towards its customers, Commonwealth also comply with the existing regulation, which resulting in the strategy and compliance ranking above.

However, there is a unique result from reporting index. It turns out that every bank has a similar reporting index score. All 4 banks lack 1 point from the reporting index, resulting in similar rank from all 4 of the banks.

Table 2: ERM Index of Top 4 Banks in Australia in 2017

Bank	2017									
	Strategy		Operating		Reporting		Compliance		ERM Index	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
ANZ	12.01949	3	0.03245	4	-2	1	0.0025%	3	10.051	3
Common-wealth Bank	13.74129	1	0.03409	3	-2	1	0.0029%	2	11.775	1
NAB	11.31105	4	0.03476	2	-2	1	0.0010%	4	9.345	4
Westpac	12.89092	2	0.03666	1	-2	1	0.0031%	1	10.927	2

Source: Annual Report, 2017

In 2017, despite giving a great performance through the ERM Index, Westpac is still dominated by the 2016 champion, Commonwealth Bank. In fact, the rank for the 2017 ERM Index is the exact copy of the 2016 ERM Index. According to the indexes, Commonwealth Bank is behind Westpac in 2 of them. However, the end result stays the same.

From compliance index, Westpac topped the rank followed by Commonwealth Bank, ANZ and NAB in order. From operating index, once again Westpac ranked 1st. Surprisingly, NAB stands on the 2nd rank while leaving behind Commonwealth Bank, the top 1 bank in Australia on 3rd rank. Following on rank 4th is ANZ. Seen from the reporting index and strategy index, the result is similar from last year, where Commonwealth Bank stand on top followed by Westpac, ANZ, and NAB in descending order.

As seen from the result, it seems in 2017 Commonwealth Bank did not perform well in several indexes. Yet, through the total calculation of ERM Index, Commonwealth Bank still stand at the top proving once again their worth as the best Bank in Australia. Similar to 2016, in 2017, the ERM Index shows the same result where Westpac ranked 2nd and followed with ANZ and NAB once again.

In conclusion, through the result, Commonwealth Bank is undeniably the best bank in Australia. From the market capitalization, and supported with ERM Index research, Commonwealth Bank stand strong on top. Despite being the oldest bank in Australia, Westpac is still lacking compared to the champion. For ANZ and NAB, both are doing quite well. The banks' performance are stable in 2016 and 2017. This can be seen from the small margin difference of the ERM Index score. Although the two banks ranked 3rd and 4th, it is important to remember that ANZ and NAB are still in the top 4 banks in Australia. It does not prove that these 2

banks are not doing well. It is simply because Commonwealth Bank and Westpac performs better.

4.3 Statistics Results & Discussion

This research test the influence of ERM Index described above towards Bank Profitability Performance. In addition, this research also test the influence of ERM Dimension towards Bank Profitability Performance. The dimensions being tested are the Information of Financial Risk and Information of Risk Response. The proxy of Bank Profitability Performance are Net Interest Margin and Return on Assets. To simplify this research, a main research questions is developed.

The Main Research Questions:

Is there any influence of ERM Implementation towards Bank Profitability Performance?

To identify the main research questions, 6 hypotheses are created as follow:

H1: ERM Index has positive influence toward Net Interest Margin

H2: ERM Index has positive influence toward Return on Assets

H3: Information of Financial Risk has positive influence toward Net Interest Margin

H4: Information of Financial Risk has positive influence toward Return on Assets

H5: Information of Risk Response has positive influence toward Net Interest Margin

H6: Information of Risk Response has positive influence toward Return on Assets

To answer the hypotheses, regression method was used in the research. The result of the regression is as described below:

1st Regression

From the 1st regression, the relation between ERM Index and ERM Dimensions towards Net Interest Margin is formulated into:

$$Y1 = .0058189 + .0010489 \text{ X1*} + .0006473 \text{ X2*} - .0001288 \text{ X3*} + e$$

Legend:

    Y1 : Net Interest Margin (Bank Profitability Performance)

    X1 : ERM Index

    X2 : Information of Financial Risk (ERM Dimension)

    X3 : Information of Risk Response (ERM Dimension)

    * : Significant in confident level 95%

R-sq Overall: 99.48%

The 1ˢᵗ regression resulting in both ERM Index and ERM Dimensions (Information of Financial Risk and Risk Response) have a significant influence towards Net Interest Margin. In addition, the R-sq overall reached 99.48% proving the formula highly describes the dependent variable. Answering the hypotheses:

H1   : ERM Index has positive influence towards Net Interest Margin

∴   : There is a significant positive influence of ERM Index towards Net Interest Margin. Therefore, the hypothesis is accepted.

This result supports Liem (2018) study which states that ERM Implementation has positive influence towards Bank Profitability Performance.

H3   : Information of Financial Risk has positive influence towards Net Interest Margin

∴   : There is a significant positive influence of Information of Financial Risk towards Net Interest Margin. Therefore, the hypothesis is accepted.

This result is consistent with Liem (2018) study which states that ERM Implementation has positive influence towards Bank Profitability Performance.

H5   : Information of Risk Response has positive influence towards Net Interest Margin

∴   : There is a significant negative influence of Information of Risk Response towards Net Interest Margin. Therefore, the hypothesis is denied.

This result does not support Liem (2018) study which states that ERM Implementation has positive influence towards Bank Profitability Performance.

ERM Index has been used by non-banking industry as the benchmark to assess their firm's performance. Therefore, having a good ERM Index score logically should increase their performance which also leads to an increase in profitability. Similarly, this research tried to use the same method to assess the banking industries performance with ERM Index. As expected, a higher ERM Index leads to a significant increase of Bank Profitability Performance.

Every company faces a lot of risks, including Financial Risk. In order to face and manage it, a firm has to understand their own risk. By having Information of Financial Risk proves that a bank realized the risk that could threat them financially. Once they are able to identify the risk they are facing, they could start making some action plans to reduce any chances of loss in profitability due to the risk.

Surprisingly, the 5th hypothesis resulting in a rather contradictive position against the 3rd hypothesis. While before, realizing risk supposedly increase profitability, for the 5th hypothesis, it is expected that responding to that risk, whether through risk management or any other tools, supposedly should also increase profitability. However, according to the statistics, the result shows a negative influence towards Bank Profitability Performance. In order to prove this theory, a further research is necessary.

2nd Regression

2nd Regression

In order to understand further more about the relation between ERM Index and ERM Dimensions towards Bank Profitability Performance, the research conducted another test with different proxy of Bank Profitability Performance. This test is conducted to answer the 2nd, 4th, and 6th research questions and hypotheses. While previously the research used Net Interest Margin as Bank Profitability Performance proxy, in the second test, Return on Assets will be used to replace Net Interest Margin. The result is as follow:

$$Y2 = .0040147 + .0006601 \; X1 - .0012506 \; X2* + .000426 \; X3* + e$$

$$Y2 = .0006601 \; X1 - .0012506 \; X2 + .000426 \; X3 + .0040147 + e$$

Legend:

- Y2 : Return on Assets (Bank Profitability Performance)
- X1 : ERM Index
- X2 : Information of Financial Risk
- X3 : Information of Risk Response
- * : Significant in confident level 95%

R-sq Overall = 98.46 %

Similar to the previous regression, the R-sq overall of this formula is immensely high with 98.46%. This formula has described the majority of the dependent variable. However, surprisingly, when the proxy of the variable was changed to Return on Assets (ROA), the result has several differences with the previous test with Net Interest Margin. Therefore, answering the hypotheses:

H2   : ERM Index has positive influence toward Return on Assets

∴   : There is a positive influence of ERM Index towards Return on Assets. Therefore, the hypothesis is accepted.

H4   : Information of Financial Risk has positive influence toward Return on Assets

∴   : There is a significant negative influence of Information of Financial Risk towards Return on Assets. Therefore, the hypothesis is denied.

H6   : Information of Risk Response has positive influence toward Return on Assets

∴   : There is a significant positive influence of Information of Risk Response towards Bank Profitability Performance. Therefore, the hypothesis is accepted.

Therefore, comparing the second test with the previous test, the result has several distinction. To simplify the comparison, refer to Table 3 below:

Table 3: The Comparison of 1st Regression and 2nd Regression sTest Result

		Dependent Variable					
		Net Interest Margin (NIM)			Return on Assets (ROA)		
		Score	Significance	Influence	Score	Significance	Influence
Independent Variable	ERM Index	.0010489	Significant	Positive	.0006601	Insignificant	Positive
	Information of Financial Risk	.0006473	Significant	Positive	.0012506	Significant	Negative
	Information of Risk Response	.0001288	Significant	Negative	.000426	Significant	Positive

Source: Researcher, 2018

According to the 2nd regression, similar to the previous test, ERM Index has positive influence toward ROA. Therefore, this result confirms that ERM Index has positive influence toward bank profitability.

However, this study could not confirm that Information of Financial Risk has positive influence toward bank profitability performance. From the 2nd regression, Information of Financial Risk has negative influence toward bank profitability performance.

Similarly, by accepting the 6th hypothesis in the 2nd regression, this study could not confirm that Information of Risk Response has positive influence toward bank profitability performance. Unlike the previous test, where the hypothesis was denied due to the negative influence of Information of Risk Response towards bank profitability performance, the 2nd regression shows positive result.

Therefore, out of the 3 independent variable, this study could only confirm the influence ERM Index towards bank profitability performance. The other 2, including Information of Financial Risk and Information of Risk Response still shows inconsistent result. Due to this, this study recommends future researcher to research regarding this inconsistency result in a larger scale.

4.4 Conclusion

Out of all the test, this study concludes that only 2 of the hypotheses is denied. The findings show that Information of Risk Response does not have positive influence towards Net Interest Margin. On the other hand, Information of Financial risk also does not have positive influence towards Return on Assets. However, the other hypotheses are accepted. While ERM Dimensions influence towards Bank Profitability Performance still shows inconsistency results, ERM Index is proved to have positive influence towards Bank Profitability Performance. However, the relationship between ERM Dimensions and Bank Profitability Performance needs further research to confirm the findings.

CHAPTER V
CONCLUSION

5.1 Conclusion

The main research question of this study is:

Is there any influence of ERM Implementation towards Bank Profitability Performance?

To identify the main research questions, this study analyzes the influence of ERM Implementation toward Bank Profitability Performance with the help of 6 hypothesis. The result of this study is as follow:

H1   : ERM Index has positive influence towards Net Interest Margin
H1 is accepted because there is a significant positive influence of ERM Index towards Net Interest Margin.

H2   : ERM Index has positive influence towards Return on Assets
H2 is accepted because there is a significant positive influence of ERM Index towards Return on Assets.

H3   : Information of Financial Risk has positive influence towards Net Interest Margin
H3 is accepted because there is a significant positive influence of Information of Financial Risk towards Net Interest Margin.

H4   : Information of Financial Risk has positive influence towards Return on Assets
H4 is denied because there is a significant negative influence of Information of Financial Risk towards Return on Assets.

H5   : Information of Risk Response has positive influence towards Net Interest Margin
H5 is denied because there is a significant negative influence of Information of Risk Response towards Net Interest Margin.

H6   : Information of Risk Response has positive influence towards Return on Assets
H6 is accepted because there is a significant positive influence of Information of Risk Response towards Return on Assets.

In addition, by comparing the results above, this study confirms that ERM Index does have positive influence towards Bank Profitability Performance. According to the findings of the 1st and 2nd hypotheses, ERM Index is proven to have positive influence towards Bank Profitability Performance. This result supports Liem's (2018) study. However, not all of the components of ERM Implementation has positive influences towards Bank Profitability Performance.

This study still unable to confirm the influence of ERM Dimensions toward Bank Profitability Performance. There are still inconsistency result from the 2nd to 6th hypotheses. Therefore, further research with larger sample is needed to understand deeper about the influence of ERM Implementation toward Bank Profitability Performance.

5.2 Recommendation

Since there are still some differences and inconsistency between the regression results, the researcher recommend future researchers to analyze deeper regarding influence ERM Implementation and Bank Profitability Performance, especially, when the proxy of Bank Profitability Performance variable is replaced. In addition, since this study only focuses on 4 Top Banks in Australia, it is recommended that future research will be conducted with wider range of sample to give a better result and understanding.

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Appendix
Regression Results

```
. xtreg Y1 X1 X2 X3, re

Random-effects GLS regression              Number of obs      =         8
Group variable: Bank                       Number of groups   =         4

R-sq:
     within  = 0.9153                      Obs per group:
     between = 0.9999                                    min =         2
     overall = 0.9948                                    avg =       2.0
                                                         max =         2

                                           Wald chi2(3)       =    766.98
corr(u_i, X)   = 0  (assumed)              Prob > chi2        =    0.0000

-----------------------------------------------------------------------------
         Y1 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
------------+----------------------------------------------------------------
         X1 |   .0010489   .0000413    25.42   0.000     .000968     .0011298
         X2 |   .0006473   .0000787     8.23   0.000     .0004931    .0008015
         X3 |  -.0001288   .0000199    -6.49   0.000    -.0001678   -.0000899
      _cons |   .0058189   .0007812     7.45   0.000     .0042879    .00735
------------+----------------------------------------------------------------
    sigma_u |          0
    sigma_e |  .00008976
        rho |          0   (fraction of variance due to u_i)
-----------------------------------------------------------------------------
```

. xtreg Y1 X1 X2 X3, fe
note: X3 omitted because of collinearity

Fixed-effects (within) regression   Number of obs   =   8
Group variable: Bank   Number of groups   =   4

R-sq: Obs per group:
    within = 0.9671   min =   2
    between = 0.9142   avg =   2.0
    overall = 0.9072   max =   2

                                                     F(2,2)   =   29.41
corr(u_i, Xb) = -0.9132   Prob > F   =   0.0329

Y1	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
X1	.0017384	.0003978	4.37	0.049	.000027	.0034498
X2	.0002405	.0001803	1.33	0.314	-.0005352	.0010162
X3	0	(omitted)				
_cons	-.0004819	.0032532	-0.15	0.896	-.0144793	.0135154

sigma_u	.00086527
sigma_e	.00008976
rho	.98935392	(fraction of variance due to u_i)

F test that all u_i=0: F(3, 2) = 19.65   Prob > F = 0.0488

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. xtreg Y2 X1 X2 X3, re

Random-effects GLS regression   Number of obs   =   6
Group variable: Bank   Number of groups   =   3

R-sq:
     within = 0.3445   Obs per group:
     between = 0.9998   min =   2
     overall = 0.9846   avg =   2.0
                                                             max =   2

                                               Wald chi2(3)   =   127.75
corr(u_i, X)   = 0 (assumed)   Prob > chi2   =   0.0000

Y2	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]
X1	.0006601	.0003483	1.90	0.058	-.0000226 .0013427
X2	-.0012506	.0004001	-3.13	0.002	-.0020348 -.0004664
X3	.000426	.0001067	3.99	0.000	.0002169 .0006351
_cons	.0040147	.0053294	0.75	0.451	-.0064306 .0144601
sigma_u	0				
sigma_e	.00017938				
rho	0	(fraction of variance due to u_i)

. xtreg Y2 X1 X2 X3, fe
note: X3 omitted because of collinearity

Fixed-effects (within) regression   Number of obs   =   6
Group variable: Bank   Number of groups   =   3

R-sq:
    within = 0.8430   Obs per group:
    between = 0.9866   min =   2
    overall = 0.8461   avg =   2.0
                                                                    max =   2

                                                     F(2,1)   =   2.69
corr(u_i, Xb) = -0.9637   Prob > F   =   0.3962

Y2	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]
X1	-.0009953	.0008164	-1.22	0.437	-.0113689 .0093783
X2	-.0001796	.0003653	-0.49	0.709	-.0048206 .0044613
X3	0	(omitted)			
_cons	.0212828	.0069524	3.06	0.201	-.0670552 .1096208
sigma_u	.00244679				
sigma_e	.00017938				
rho	.99465389	(fraction of variance due to u_i)			

F test that all u_i=0: F(2, 1) = 23.76   Prob > F = 0.1435

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Data

Year	Bank	X1	X2	X3	Y1	Y2
2016	1	10.37384452	10.00	19.00	0.02	0.01
2016	2	11.97249438	9.00	22.00	0.02	0.01
2016	3	9.41859851	9.00	22.00	0.02	-
2016	4	11.16785567	10.00	24.00	0.02	0.01
2017	1	10.05199767	9.00	18.00	0.02	0.01
2017	2	11.77544268	9.00	22.00	0.02	0.01
2017	3	9.34582879	9.00	22.00	0.02	-
2017	4	10.92761511	10.00	24.00	0.02	0.01

Strategy		2016
CommBank	IDR	33,817,000,000
Interest Income	IDR	29,951,000,000
Average Income*	IDR	
Std. Deviation of Interest Income**		
STRATEGY		13.9362133571
ANZ		12.3410836274

Westpac	SGD	31,822,000,000
		40,812,500
		13.13
NAB	IDR	27,629,000,000
		11.3830155383

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Operating

		2016	
		CommBank	
Interest Income	IDR	33,817,000,000	
Total Assets	IDR	933,001,000,000	
OPERATING		0.0362454060	

		ANZ	
Interest Income	IDR	29,951,000,000	
Total Assets	IDR	914,869,000,000	
OPERATING		0.0327380204	

		Westpac	
	SGD	31,822,000,000	
	SGD	839,202,000,000	
		0.0379193567	

		NAB	
	IDR	27,629,000,000	
	IDR	776,710,000,000	
		0.0355718350	

Reporting	ANZ	CommBank 2016
	KPMG	PWC
Material Weakness	0	0
Auditor Opinion	-1	-1
Restatement	-1	-1
REPORTING	-2	-2

	NAB	Westpac
	EY	PWC
	0	0
	-1	-1
	-1	-1
	-2	-2

Compliance

		2016	
		CommBank	
External Auditor Fees		IDR	32,725,000
Total Assets		IDR	933,001,000,000
COMPLIANCE			0.0035074989%

		ANZ	
External Auditor Fees		IDR	21,550,000
Total Assets		IDR	914,869,000,000
COMPLIANCE			0.0023555285%

		Westpac	
External Auditor Fees		SGD	25,947,000
Total Assets		SGD	839,202,000,000
COMPLIANCE			0.0030918658%

		NAB	
External Auditor Fees		IDR	8,649,000
Total Assets		IDR	776,710,000,000
COMPLIANCE			0.0011135430%

Strategy				2017
		ANZ		**CommBank**
Interest Income	IDR	29,120,000,000	IDR	33,293,000,000
Average Income*	IDR			
Std. Deviation of Interest Income**				
STRATEGY		12.0194995324		13.7412989018

	NAB		**Westpac**
IDR	27,403,000,000	SGD	31,232,000,000
			(10,787,500)
			2,423,627,325.05
	11.3110572804		12.8909206367

Operating — 2017

	ANZ		CommBank	
Interest Income	IDR	29,120,000,000	IDR	33,293,000,000
Total Assets	IDR	897,326,000,000	IDR	976,374,000,000
OPERATING	0.0324519740		0.0340986139	

	NAB		Westpac	
Interest Income	IDR	27,403,000,000	SGD	31,232,000,000
Total Assets	IDR	788,325,000,000	SGD	851,875,000,000
OPERATING	0.03476104440		0.0366626559	

Reporting		ANZ	CommBank	2017
Material Weakness		0	0	
Auditor Opinion	KPMG	-1	-1	PWC
Restatement		-1	-1	
REPORTING		-2	-2	

	NAB	Westpac
Material Weakness	0	0
Auditor Opinion (EY / PWC)	-1	-1
Restatement	-1	-1
REPORTING	-2	-2

Compliance

			2017
			CommBank
External Auditor Fees		IDR	28,556,000
Total Assets		IDR	976,374,000,000
COMPLIANCE			0.0029246989%

			ANZ
		IDR	22,593,000
		IDR	897,326,000,000
			0.0025178140%

			Westpac
		SGD	27,073,000
		SGD	851,875,000,000
			0.0031780484%

			NAB
IDR			8,247,000
IDR			788,325,000,000
			0.0010461421%

* Average Income				
		2016		2017
Total Income	IDR	3,265,000,000	SGD	(863,000,000)
No of Banks		80		
Average Income	IDR	40,812,500.00	SGD	(10,787,500)

** Std. Deviation of Interest Income		
ANZ 2016	IDR	29,951,000,000
CommBank 2016	IDR	33,817,000,000
NAB 2016	IDR	27,629,000,000
Westpac 2016	IDR	31,822,000,000
ANZ 2017	IDR	29,120,000,000
CommBank 2017	IDR	33,293,000,000
NAB 2017	SGD	27,403,000,000
Westpac 2017	SGD	31,232,000,000
AUSTRALIA	IDR	2,423,627,325

FINANCIAL HIGHLIGHTS

	2016	2015
Profitability		
Profit attributable to shareholders of the Company ($m)	5,709	7,493
Cash profit ($m)[1]	5,889	7,216
Return on:		
Average ordinary shareholders' equity[2]	10.0%	14.5%
Average ordinary shareholders' equity (cash basis)[1,2]	10.3%	14.0%
Average assets (cash basis)[1]	0.65%	0.85%
Net interest margin (cash basis)[1]	2.00%	2.04%
Cash profit per average FTE ($)[1]	121,091	141,621
Basic earnings per share	197.4	271.5
Basic earnings per share (cash basis)[1]	202.6	260.3
Efficiency		
Operating expenses to operating income	50.8%	44.5%
Operating expenses to average assets	1.15%	1.10%
Operating expenses to operating income (cash basis)[1]	50.6%	45.7%
Operating expenses to average assets (cash basis)[1]	1.15%	1.10%
Balance Sheet		
Gross loans and advances ($b)[3]	580.0	574.3
Customer deposits ($b)	449.6	444.6
Total equity ($b)	57.9	57.4
Gross impaired assets ($b)	3.2	2.7
Capital and Liquidity		
Common Equity Tier 1 – APRA Basel 3	9.6%	9.6%
Common Equity Tier 1 – Internationally Comparable Basel 3[4]	14.5%	13.2%
Liquidity Coverage Ratio (average)	126%	122%
Leverage Ratio – APRA	5.3%	5.1%
Credit impairment charges		
Individual credit impairment charge ($m)	1,912	1,084
Collective credit impairment charge ($m)	17	95
Total credit impairment charge ($m)	1,929	1,179
Individual credit impairment charge as a % of average gross loans and advances[3]	0.33%	0.19%
Total credit impairment charge as a % of average gross loans and advances[3]	0.34%	0.21%
Ordinary share dividends		
Interim – 100% franked (cents)[5]	80	86
Final – 100% franked (cents)[5]	80	95
Total dividend (cents)[5]	160	181
Ordinary share dividend payout ratio[6]	81.9%	68.6%
Cash ordinary share dividend payout ratio[1,6]	79.4%	71.2%
Preference share dividend ($m)		
Dividend paid[7]	–	1

1 Cash profit excludes non-core items included in statutory profit and is provided to assist readers in understanding the results of the ongoing business activities of the Group. Cash profit is not subject to audit by the external auditor; however, the external auditor has informed the Audit Committee that the adjustments have been determined on a consistent basis across each year presented. Refer pages 18 and 188 to 189 for further details.
2 Average ordinary shareholders' equity excludes non-controlling interests and preference shares.
3 Loans and advances as at 30 September 2015 include assets classified as held for sale.
4 ANZ's interpretation of the regulations documented in the Basel Committee publications; Basel 3: A global regulatory framework for more resilient banks and banking systems, June 2011 and International Convergence of Capital Measurement and Capital Standards, June 2006. Also includes differences identified in APRA's information paper entitled International Capital Comparison Study, 13 July 2015.
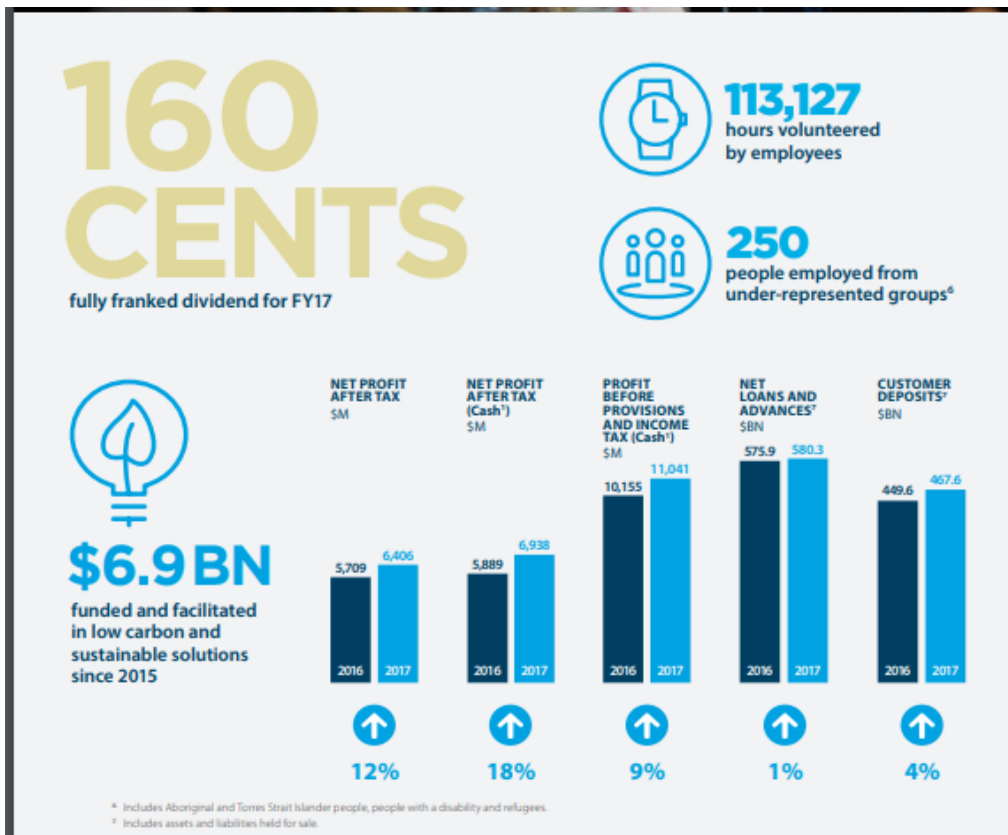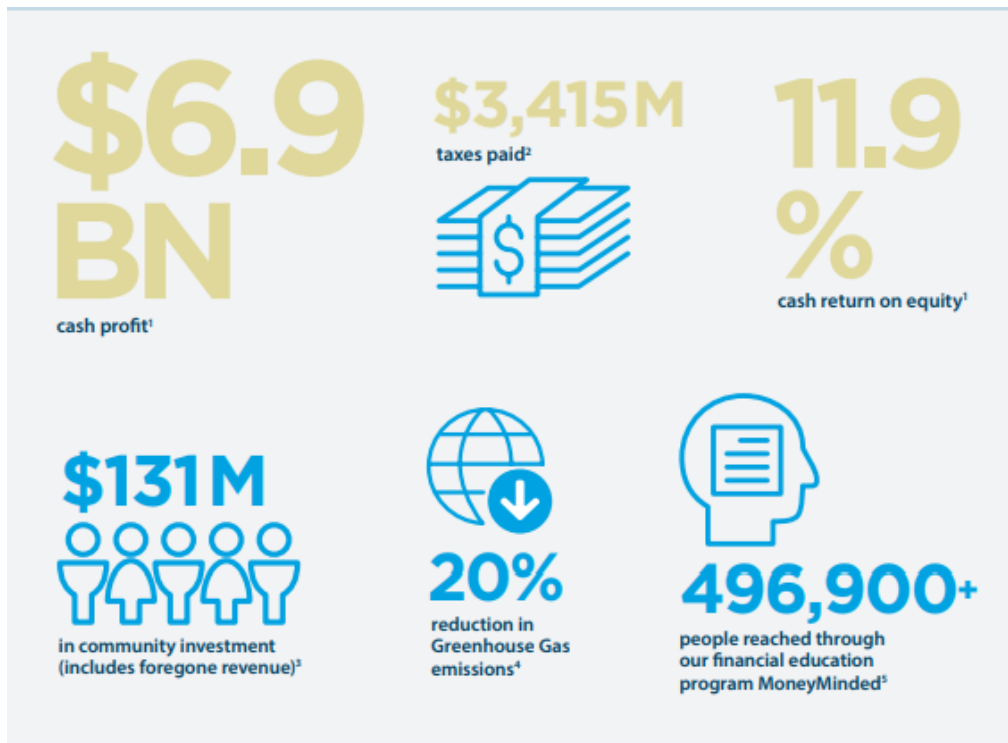5 Fully franked for Australian tax purposes and carry New Zealand imputation credits of NZD 9 cents per ordinary share for the proposed 2016 financial dividend (2016 interim dividend: NZD 10 cents; 2015 final dividend: NZD 11 cents; 2015 interim dividend: NZD 10 cents).
6 Dividend payout ratio is calculated using the proposed 2016 final, 2016 interim, 2015 final and 2015 interim dividends.
7 Represents dividends paid on Euro Trust Securities (preference shares) issued on 13 December 2004. The Euro Trust Securities were bought back by ANZ for cash at face value and cancelled on 15 December 2014.

$6.9 BN
cash profit[1]

$3,415M
taxes paid[2]

11.9%
cash return on equity[1]

$131M
in community investment (includes foregone revenue)[3]

20%
reduction in Greenhouse Gas emissions[4]

496,900+
people reached through our financial education program MoneyMinded[5]

160 CENTS
fully franked dividend for FY17

113,127
hours volunteered by employees

250
people employed from under-represented groups[4]

$6.9 BN
funded and facilitated in low carbon and sustainable solutions since 2015

	NET PROFIT AFTER TAX $M	NET PROFIT AFTER TAX (Cash[1]) $M	PROFIT BEFORE PROVISIONS AND INCOME TAX (Cash[1]) $M	NET LOANS AND ADVANCES[7] $BN	CUSTOMER DEPOSITS[7] $BN
2016	5,709	5,889	10,155	575.9	449.6
2017	6,406	6,938	11,041	580.3	467.6
	12%	18%	9%	1%	4%

[4] Includes Aboriginal and Torres Strait Islander people, people with a disability and refugees.
[7] Includes assets and liabilities held for sale.

Highlights

Group Performance Summary	Full Year Ended ("cash basis")			Half Year Ended ("cash basis")			Full Year Ended ("statutory basis")	
	30 Jun 16 $M	30 Jun 15 $M	Jun 16 vs Jun 15 %	30 Jun 16 $M	31 Dec 15 $M	Jun 16 vs Dec 15 %	30 Jun 16 $M	Jun 16 vs Jun 15 %
Net interest income [1]	16,935	15,827	7	8,508	8,427	1	16,935	7
Other banking income [1]	4,860	4,811	1	2,444	2,416	1	4,576	(5)
Total banking income	**21,795**	**20,638**	**6**	**10,952**	**10,843**	**1**	**21,511**	**4**
Funds management income	2,016	1,938	4	984	1,032	(5)	2,061	3
Insurance income	795	792	-	308	487	(37)	1,006	(1)
Total operating income	**24,606**	**23,368**	**5**	**12,244**	**12,362**	**(1)**	**24,578**	**4**
Investment experience	141	210	(33)	83	58	43	-	-
Total income	**24,747**	**23,578**	**5**	**12,327**	**12,420**	**(1)**	**24,578**	**4**
Operating expenses	(10,429)	(9,993)	4	(5,213)	(5,216)	-	(10,468)	4
Loan impairment expense	(1,256)	(988)	27	(692)	(564)	23	(1,256)	27
Net profit before tax	**13,062**	**12,597**	**4**	**6,422**	**6,640**	**(3)**	**12,854**	**2**
Corporate tax expense [2]	(3,592)	(3,439)	4	(1,767)	(1,825)	(3)	(3,607)	2
Non-controlling interests [3]	(20)	(21)	(5)	(9)	(11)	(18)	(20)	(5)
Net profit after tax ("cash basis")	**9,450**	**9,137**	**3**	**4,646**	**4,804**	**(3)**	**n/a**	**n/a**
Hedging and IFRS volatility [6]	(200)	6	large	(49)	(151)	(68)	n/a	n/a
Other non-cash items [4]	(23)	(80)	(71)	12	(35)	large	n/a	n/a
Net profit after tax ("statutory basis")	**9,227**	**9,063**	**2**	**4,609**	**4,618**	**-**	**9,227**	**2**
Represented by: [1]								
Retail Banking Services	4,436	3,994	11	2,221	2,215	-		
Business and Private Banking	1,567	1,495	5	764	803	(5)		
Institutional Banking and Markets	1,164	1,285	(9)	556	608	(9)		
Wealth Management	617	653	(6)	245	372	(34)		
New Zealand	877	882	(1)	414	463	(11)		
Bankwest	763	795	(4)	367	396	(7)		
IFS and Other	26	33	(21)	79	(53)	large		
Net profit after tax ("cash basis")	9,450	9,137	3	4,646	4,804	(3)		
Investment experience after tax	(100)	(150)	(33)	(56)	(44)	27		
Net profit after tax ("underlying basis")	**9,350**	**8,987**	**4**	**4,590**	**4,760**	**(4)**		

(1) Comparative information has been restated to reflect the changes in presentation disclosed in the prior half, and reclassification of fixed rate prepayment recoveries from Other banking income to Net interest income to align with the associated hedge costs.

(2) For the purposes of presentation of Net profit after tax ("cash basis"), policyholder tax expense components of corporate tax expense are shown on a net basis (30 June 2016: $101 million and 30 June 2015: $99 million, and for the half years ended 30 June 2016: $92 million and 31 December 2015: $9 million).

(3) Non-controlling interests include preference dividends paid to holders of preference shares in ASB Capital Limited and ASB Capital No.2 Limited.
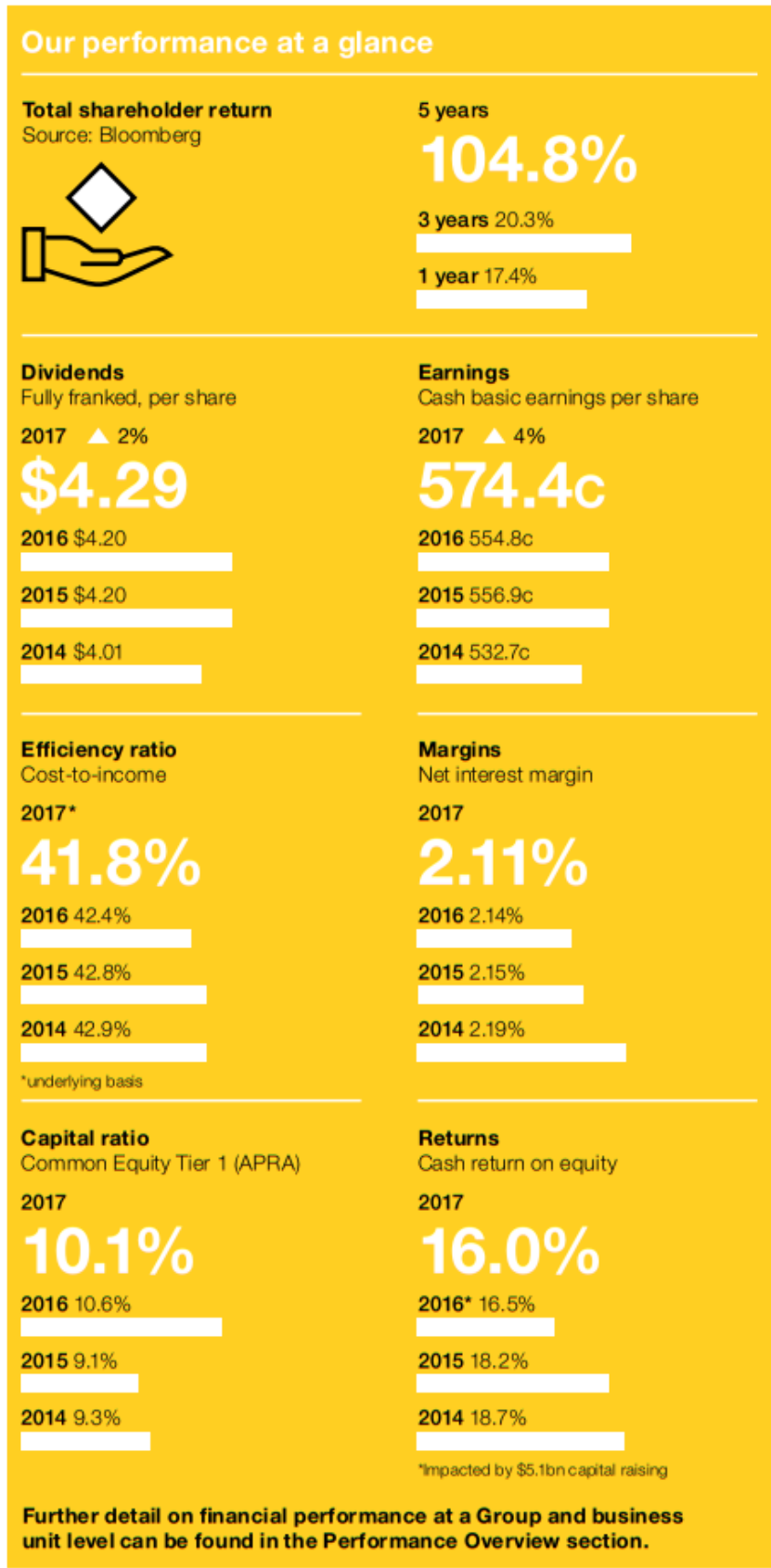
(4) Refer to page 20 for details.

Group Return on Equity

Group Return on Assets

Our performance at a glance

Total shareholder return
Source: Bloomberg

5 years
104.8%

3 years 20.3%

1 year 17.4%

Dividends
Fully franked, per share

2017 ▲ 2%
$4.29

2016 $4.20

2015 $4.20

2014 $4.01

Earnings
Cash basic earnings per share

2017 ▲ 4%
574.4c

2016 554.8c

2015 556.9c

2014 532.7c

Efficiency ratio
Cost-to-income

2017*
41.8%

2016 42.4%

2015 42.8%

2014 42.9%

*underlying basis

Margins
Net interest margin

2017
2.11%

2016 2.14%

2015 2.15%

2014 2.19%

Capital ratio
Common Equity Tier 1 (APRA)

2017
10.1%

2016 10.6%

2015 9.1%

2014 9.3%

Returns
Cash return on equity

2017
16.0%

2016* 16.5%

2015 18.2%

2014 18.7%

*Impacted by $5.1bn capital raising

Further detail on financial performance at a Group and business unit level can be found in the Performance Overview section.

Performance highlights

Net profit after tax $7,445 million, down 7%

Net profit after tax[1] ($m)

	07	08	09	10	11	12	13	14	15	16
	3,451	3,859	3,446	6,346	6,991	5,936	6,751	7,561	8,012	7,445

Dividends $1.88 up 1%[2]

Dividends per ordinary share (cents) — Special dividends

	07	08	09	10	11	12	13	14	15	16
	131	142	116	139	156	166	174	182	187	188
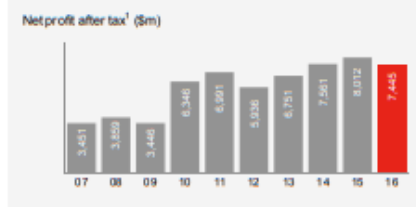
Cash earnings $7,822 million, flat

Cash earnings[3,4,5] ($m)

	07	08	09	10	11	12	13	14	15	16
	3,507	5,047	4,675	5,879	6,301	6,564	7,063	7,628	7,820	7,822
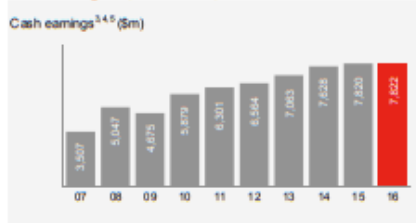
Returns 14.0%, down 185bps

Cash earnings to average ordinary equity[3,4,5] (%)

	07	08	09	10	11	12	13	14	15	16
	23.8	22.3	14.0	16.1	16.0	15.4	15.9	16.4	15.8	14.0

Cash earnings per ordinary share, down 5%

Cash earnings per ordinary share[3,4,5,7] (cents)
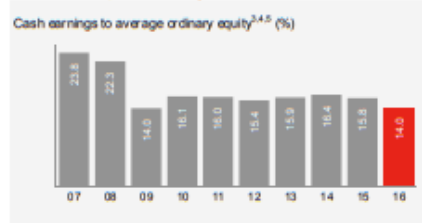
	07	08	09	10	11	12	13	14	15	16
	189.4	198.3	163.7	197.8	209.3	214.8	227.8	245.4	248.2	235.5

	2016	2015	% change 2016 / 2015
Reported earnings			
Net profit after tax[1] ($m)	7,445	8,012	(7%)
Earnings per share (cents)	224.6	255.0	(12%)
Dividends per share (cents)	188	187	1%
Return on equity[6] (%)	13.3	16.2	291bps
Expense to income ratio (%)	43.9	43.8	15bps
Common Equity Tier 1 capital ratio (%)	9.5	9.5	(2bps)
Cash earnings basis[3]			
Cash earnings ($m)	7,822	7,820	-
Cash earnings per share (cents)	235.5	248.2	(5%)
Cash earnings return on equity[6] (%)	14.0	15.8	(185bps)
Economic profit[8] ($m)	3,774	4,418	(15%)

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[1] Net profit attributable to ordinary equity holders.

[2] Excluding special dividends but including dividends determined in 2016.

[3] The adjustments to our reported results to derive cash earnings are described in Note 2 of our 2016 financial statements.

[4] Figures for 2009 (and for cash earnings in 2008 only) are presented on a 'pro forma' basis, that is, as if the merger between Westpac and St.George Bank Limited was completed on 1 October 2007. The basis of presentation of the pro forma results is explained in more detail in Section 2.1 of Westpac's Full Year 2009 Results (incorporating the requirements of Appendix 4E) lodged with the ASX on 4 November 2009 and that section of the ASX Announcement is incorporated by reference into this Annual Report.

[5] Cash earnings for 2009 has been restated to exclude the impact of fair value adjustments related to the St.George merger. For further information refer to Note 32 to the financial statements in Westpac's 2010 Annual Report.

[6] Return on average ordinary equity.

[7] 2015 cash earnings per ordinary share have been restated for consistency with 2016. Periods prior to 2015 have not been restated for the bonus element of the 2015 share entitlement offer.

[8] Economic profit represents the excess of adjusted cash earnings over a minimum required rate of return on equity invested. For this purpose, adjusted cash earnings is defined as cash earnings plus the estimated value of franking credits paid to shareholders. The calculation of economic profit is described in more detail in Section 5 of Westpac's Full Year 2016 Results (incorporating the requirements of Appendix 4E) lodged with the ASX on 7 November 2016 (the 'ASX Announcement').
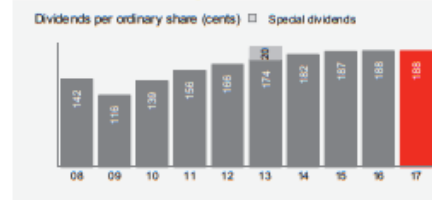
Performance highlights

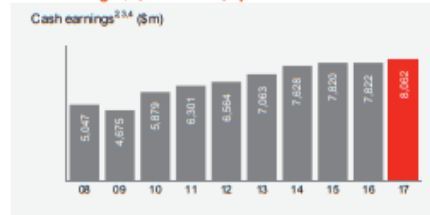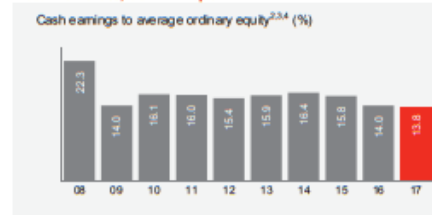### Net profit after tax $7,990 million, up 7%

Net profit after tax[1] ($m)
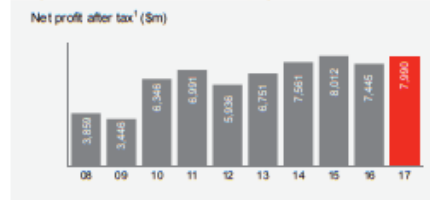
Dividends $1.88, unchanged

Dividends per ordinary share (cents) ☐ Special dividends

Cash earnings $8,062 million, up 3%

Cash earnings[2,3,4] ($m)

Returns 13.8%, down 22bps

Cash earnings to average ordinary equity[2,3,4] (%)

Cash earnings per ordinary share, up 2%

Cash earnings per ordinary share[2,3,4,6] (cents)

	2017	2016	% change 2017 / 2016
Reported earnings			
Net profit after tax[1] ($m)	7,990	7,445	7%
Earnings per share (cents)	238.0	224.6	6%
Dividends per share (cents)	188	188	–
Return on equity[5] (%)	13.6	13.3	33bps
Expense to income ratio (%)	43.3	43.9	(65bps)
Common Equity Tier 1 capital ratio (%)	10.6	9.5	108bps
Cash earnings basis[2]			
Cash earnings ($m)	8,062	7,822	3%
Cash earnings per share (cents)	239.7	235.5	2%
Cash earnings return on equity[5] (%)	13.8	14.0	(22bps)
Economic profit[7] ($m)	3,774	3,774	–

[1] Net profit attributable to ordinary equity holders.

[2] The adjustments to our reported results to derive cash earnings are described in Note 2 of our 2017 financial statements.

[3] Figures for 2009 (and for cash earnings in 2008 only) are presented on a 'pro forma' basis; that is, as if the merger between Westpac and St.George Bank Limited was completed on 1 October 2007. The basis of presentation of the pro forma results is explained in more detail in Section 2.1 of Westpac's Full Year 2009 Results (incorporating the requirements of Appendix 4E) lodged with the ASX on 4 November 2009 and that section of the ASX Announcement is incorporated by reference into this Annual Report.

[4] Cash earnings for 2009 has been restated to exclude the impact of fair value adjustments related to the St.George merger. For further information refer to Note 32 to the financial statements in Westpac's 2010 Annual Report.

[5] Return on average ordinary equity.

[6] Periods prior to 2015 have not been restated for the bonus element of the 2015 share entitlement offer.

[7] Economic profit represents the excess of adjusted cash earnings over a minimum required rate of return on equity invested. For this purpose, adjusted cash earnings is defined as cash earnings plus the estimated value of franking credits paid to shareholders. The calculation of economic profit is described in more detail in Section 5 of Westpac's Full Year 2017 Results (incorporating the requirements of Appendix 4E) lodged with the ASX on 6 November 2017 (the 'ASX Announcement').