Relationship between CEO Salaries and Performance of Banks in Australia and Germany

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Abstract
Purpose: The purpose of this paper was to examine the relationship between CEO salaries and firm performance in the banking sector.
Design/methodology/approach: The data relating to a six year period (2007 - 2012) was gathered from databases and the websites of the major banks in Australia and Germany. The data was subjected to Regression and Pearson Correlation Analysis to test if there was a positive correlation between total salary including incentive bonuses against the variables indicating the performance of the firm.
Findings: The tests indicate a weak relationship between the CEO salary package and the key indicators of a firm’s performance in Australian banks but a strong relationship in the German banks.
Research limitations/implications: This study was limited in that it only covers the major banks in Australia and Germany and may therefore not be relevant to different countries with different economic climates.
Practical implications: This study provides additional evidence to support the continued debate regarding the need to have greater accountability for CEO salary packages linked to actual performance measures of firms.
Originality/value: This paper adds to the literature in so far as it compares two different Countries of the banking sector in a global market.

Keywords: CEO salary packages; banking sector; firm performance measures.

JEL Classification: G21; J30
PsycINFO Classification: 3630
FoR Code: 1503
Introduction

The continued fallout from the global financial crisis (Nadir & Ilhan, 2011; Shi, 2010; Griffith-Jones & Ocampo, 2009; Zago de Azevedo & Terra, 2009) continues to draw attention to the banking sector (Crane, 2007; Nadir & Ilhan, 2011) and in particular the way in which banks are being managed by their respective Chief Executive Officers (CEO’s). There has also been an increase in interest about the salary packages being given to the CEO’s in general (Werner & Ward, 2004; Baron & Pfeffer, 1994) and in the banking sector calls for greater scrutiny have been echoed in the popular press and in the literature (John & Qian, 2003; Crumley, 2008).

From the research it is clear that there are problems in justifying the CEO salary packages in light of the economic problems impacting on many countries. In the European sphere of banking the German banks appear to be holding up better than those in the other countries such as Spain Greece and Cyprus. But it is worth noting that the European economic ties have the potential to bring problems across borders and the German banks may not be as immune to economic the economic downturn that is affecting other European countries. In Australia the banking sector has rallied and has been safeguarded against any of the major problems due to more stringent controls (Bizouati, 2007; Laing, 2011) and ties with countries that have kept the economy safer from the down turn that has hit Europe. However, these claims may not be sustainable in the long term and it is worth examining the difference between the performance of the major banks in these two countries to see if there is any differences in the way they reward the CEO’s for such performance.

To examine these issues this study is concerned with the measurement of performance of the banks as detailed in the corporate governance section dealing with remuneration of Chief Executive Officers in the banking sector.

Literature Review

The idea of providing CEO’s with a larger salary package than any other employee has its support in Agency Theory (Lambert (2001). The argument is that by providing incentives linked to the performance of the firm should make the agent, in the case of firms the CEO, more dedicated to producing higher efforts to achieve increases in the firm's performance (Moers & Peek, 2000). Agency theory (Jensen & Meckling, 1976; Widener, 2006) predicts that by linking salary packages to firm performance will encourage CEO’s to align their interests to those of shareholders. This suggests that the salary package will be or at least should be high for those CEO’s of firms that are achieving high performance but lower for those that are not. Where firms such as banks have been hit by the financial global crisis and are not performing well then it must be expected that the CEO’s of those banks will have lower salary packages on average than their counter parts in other countries.

Salary packages of CEO’s in the banking sector has been controversial (Crumley, 2008) particularly due to the seemingly inconsistent lack of relationship between the performance of the banks and their CEO’s salary packages. As a condition of the bailout, of banks in the USA, a salary cap of $500,000 was placed on the salary of executives (Jeppson, Smith & Stone, 2009). In their study (Jeppson, Smith & Stone, 2009 of 200 companies in the USA they did not find a strong relationship between CEO salary packages and firm performance.

In deed many studies (Abowwd, 1990; Akhigbe, Madura & Tucker, 1995) have reported a weak relationship between CEO salaries and firm performance. However, a problem with such studies is in using companies from different industries for their sample and this means that results tend to be diluted rather than focused. Studies have been done where the sample was of banks only with mixed results. Barro and Barro (1990) found that changes in pay packages were positively related to changes in bank performance. Mester (1989) reported that there was no correlation between a bank's performance and salary packages in the top five banks.

The other limitation associated with prior research can be linked to the diversity and number of variables and the manner in which the variables have been determined. Crawford
(1999) claimed to have developed a model that would address risk factors that were not otherwise considered. This model named relative performance evaluation was tested and as predicted by the model CEO salary was positively related to shareholder returns but negatively related to market and industry returns (Crawford, 1999).

Waweru, Gelinas and Uliana (2009) examined and compared CEO packages in the banking industry in developed countries to emerging economies and found significant differences between the two countries. In their study they included additional variables such as size, technology, human resources, risk and regulatory as well as cultural differences. These are all very important variables where banks and the relative economy are not equal. Other studies have included variables such as tenure of the CEO (Sigler & Porterfield, 2001), age (Attaway, 2000); market value of shares (Crawford, 1999); number of employees (Crummy, 2008).

Barro and Barro (1990) examined the relationship between changes in bank compensation and performance over the period 1982 to 1987 and found that there was a positive correlation. Akhigbe, Madura and Ryan (1997) added to this by examining the period 1989 to 1993 and extended the research to consider cross-sectional variation. They also found a positive relationship between bank performance and CEO compensation and that this was consistent over the time horizons studied.

Method

This study uses a simplified model derived from the literature to empirically test the data regarding CEO salary compensation packages and performance measurements. The data on the CEO salary compensation packages and the performance measures, for the six year period from 2007 to 2012, were all obtained from the publicly available information provided in databases (for example, Data Analysis Premium) as well as the web sites of the relevant banks. The sample of banks for this study was restricted to three major banks from Australia and three major banks from Germany. The banks from Australia are Commonwealth Bank, National Bank and Westpac Bank and from Germany they are Commerzbank, Deutsche Bank and LandesBank.

The variables being used for this study are CEO salary compensation package as the dependent variable and the independent variables are earnings per share (EPS), return on assets (ROA) and return on equity (ROE). This model is derived from the variables identified in the research of Akhigbe, Madura and Ryan (1997) and (Crawford, 1999) and adopts a narrower approach to the identification of the variables. In accordance with the Relative Performance Evaluation theory (Crawford, 1999) the expectations are that the CEO salary compensation package will be positively related to shareholders returns, as indicated by EPS, and negatively related to market and industry returns as indicated by the ROA and ROE. To examine this model the data will be tested using descriptive statistics, regression analysis and Independent Samples test.

Results

To commence the testing of the data the banks were examined according to the two different Countries to gain an overview of the possible differences, this is identified as stage 1. Once the analysis was complete then the combined testing was undertaken to give a more general overview of the application of the model, this is stage 2. The analysis starts with descriptive statistics and then the CEO compensation is regressed against each category in the order of Earnings Per Share (EPS), Return on Equity (ROE) and Return on Assets (ROA).

Stage 1 Australian Banks and German Banks by Country

Table 1 contains the descriptive statistics for the Australian banks in this study. Table 2 contains the descriptive statistics for the German banks in this study. The means and standard deviations are important data in this table and will be the benchmark for evaluation process of the results. In particular the standard deviation of the CEO compensation which in the case of Australian banks was 3,240,261 and for German banks was 3,458,846.
Table 1.
Descriptive Statistics of Australian Banks

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACEO</td>
<td>28</td>
<td>1500</td>
<td>12963</td>
<td>7326.96</td>
<td>3240.261</td>
</tr>
<tr>
<td>AEPS</td>
<td>28</td>
<td>122.50</td>
<td>439.68</td>
<td>235.9682</td>
<td>85.84240</td>
</tr>
<tr>
<td>AROA</td>
<td>28</td>
<td>.58</td>
<td>1.07</td>
<td>.8707</td>
<td>.14862</td>
</tr>
<tr>
<td>AROE</td>
<td>28</td>
<td>9.97</td>
<td>21.77</td>
<td>15.6718</td>
<td>3.29367</td>
</tr>
</tbody>
</table>

Table 2.
Descriptive Statistics of German Banks

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCEO</td>
<td>18</td>
<td>572</td>
<td>13981</td>
<td>3078.17</td>
<td>3458.846</td>
</tr>
<tr>
<td>GEPS</td>
<td>18</td>
<td>-7.61</td>
<td>13.65</td>
<td>1.3694</td>
<td>4.41093</td>
</tr>
<tr>
<td>GROA</td>
<td>18</td>
<td>-2.69</td>
<td>4.08</td>
<td>.5827</td>
<td>1.90007</td>
</tr>
<tr>
<td>GROE</td>
<td>18</td>
<td>-16.50</td>
<td>17.90</td>
<td>4.9011</td>
<td>8.91582</td>
</tr>
</tbody>
</table>

The EPS for Australian banks is reported in Table 1 which shows the mean was 235.96% and Table 3 shows the R square of .140, which is the correlation coefficient squared. This represents the proportion of total variation or that 14.0% of the value of CEO compensation is explained by change of EPS. Because this percentage is low, it indicates that CEO compensation is not dependent on percentage change in EPS especially with correlation coefficient of the EPS $r = 0.374$. Note the standard error of the estimate $\$3,062,980$ is not so different to the standard deviation $\$3,240,261$. This means the mean is as good a predictor of the CEO compensation as EPS. There was a weak positive relationship between EPS and CEO compensation but with a p value of .05 level this was not significant. These results infer that CEO’s compensation for Australian banks was not based on EPS.

Table 3.
Regression between CEO compensation and Earnings Per Share of Australian Banks

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.374a</td>
<td>.140</td>
<td>.106</td>
<td>3062.980</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), AEPS

The EPS for German banks is reported in Table 2 which shows the mean was 1.369% and Table 4 shows the R square of .677, which is the correlation coefficient squared. This represents the proportion of total variation or that 67.7% of the value of CEO compensation is explained by change of EPS. Because this percentage is high, it indicates that CEO compensation is dependent on percentage change in EPS especially with correlation coefficient of the EPS $r = 0.823$. Note the standard error of the estimate €$3,458,846$ is different to the standard deviation €$2,027,207$. This means the mean is not as good a predictor of the CEO compensation as EPS. There was a strong positive relationship between EPS and CEO compensation and with a p value of .001 this was significant. These results infer that CEO’s compensation for German banks was based on EPS.
Table 4.
Regression between CEO compensation and Earnings Per Share of German Banks

Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.823\textsuperscript{a}</td>
<td>.677</td>
<td>.656</td>
<td>2027.207</td>
</tr>
</tbody>
</table>

\textsuperscript{a} Predictors: (Constant), GEPS

The ROA for Australian banks is in Table 1 which shows the mean was 0.870% and Table 5 shows the R square of .199, which is the correlation coefficient squared. This represents the proportion of total variation or that 19.9% of the value of CEO compensation is explained by change of ROA. Because this percentage is low, it indicates that CEO compensation is not dependent on percentage change in ROA especially with correlation coefficient of the EPS $r = 0.478$. Note the standard error of the estimate $\$3,062,980$ is not so different to the standard deviation $\$2,899,629$. This means the mean is as good a predictor of the CEO compensation as ROA. There was a weak positive relationship between ROA and CEO compensation and with a p value of .001 level this was significant. These results infer that CEO’s compensation for Australian banks was more closely based on ROA.

Table 5.
Regression between CEO compensation and Return on Assets of Australian Banks

Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.478\textsuperscript{a}</td>
<td>.229</td>
<td>.199</td>
<td>2899.629</td>
</tr>
</tbody>
</table>

\textsuperscript{a} Predictors: (Constant), AROA

The ROA for German banks is in Table 2 which shows the mean was 0.582% and Table 6 shows the R square of .312, which is the correlation coefficient squared. This represents the proportion of total variation or that 31.2% of the value of CEO compensation is explained by change of ROA. Because this percentage is low, it indicates that CEO compensation is dependent on ROA especially with correlation coefficient of the EPS $r = 0.594$. Note the standard error of the estimate €3,458,846 is different to the standard deviation €2,869,256. This means the mean is not as good a predictor of the CEO compensation as ROA. There was a weak positive relationship between ROA and CEO compensation and with a p value of .009 level this was significant. These results infer that CEO’s compensation for German banks was more closely based on ROA.

Table 6.
Regression between CEO compensation and Return on Assets of German Banks

Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.594\textsuperscript{a}</td>
<td>.352</td>
<td>.312</td>
<td>2869.256</td>
</tr>
</tbody>
</table>

\textsuperscript{a} Predictors: (Constant), GROA

The ROE for Australian banks is reported in Table 1 which shows the mean was 15.671% and Table 7 shows the R square of .085, which is the correlation coefficient squared. This represents the proportion of total variation or that 8.5% of the value of CEO compensation is explained by change of ROE. Because this percentage is low, it indicates that CEO compensation is not dependent on percentage change in ROE especially with correlation coefficient of the EPS
$r = 0.291$. Note the standard error of the estimate $\$3,062,980$ is not so different to the standard deviation $\$3,158,782$. This means the mean is as good a predictor of the CEO compensation as ROE. There was a weak positive relationship between ROE and CEO compensation but with a p value of .133 level this was not significant. These results infer that CEO’s compensation for Australian banks was not based on ROE.

### Table 7.
Regression between CEO compensation and Return on Equity of Australian Banks

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.291a</td>
<td>.085</td>
<td>.050</td>
<td>3158.782</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), AROE

The ROE for German banks is reported in Table 2 shows the mean was 4.901% and Table 8 shows the R square of .0211 which is the correlation coefficient squared. This represents the proportion of total variation or that 21.1% of the value of CEO compensation is explained by change of ROE. Because this percentage is moderate, it indicates that CEO compensation is moderately dependent on ROE especially with correlation coefficient of the EPS $r = 0.461$. Note the standard error of the estimate €3,458,846 is not so different to the standard deviation €3,166,142. This means the mean is as good a predictor of the CEO compensation as ROE. There was a weak positive relationship between ROE and CEO compensation but with a p value of .055 level this was a low level of significance. These results infer that CEO’s compensation for German banks was to a moderate extent based on ROE.

### Table 8.
Regression between CEO compensation and Return on Assets of German Banks

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.460a</td>
<td>.211</td>
<td>.162</td>
<td>3166.142</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), GROE

### Stage 2 Australian Banks and German Banks Compared

To directly compare the Australian Banks against the German Banks an Independent Samples test was conducted. The results reported in Table 9 highlight that there were significant differences between the two Countries in all but the ROA.

### Table 9.
Independent Samples Test between Australian and German Banks

<table>
<thead>
<tr>
<th>Null Hypothesis</th>
<th>Test</th>
<th>Sig.</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The distribution of CEO is the same across categories of Bank.</td>
<td>Independent-Samples Mann-Whitney U Test</td>
<td>.000</td>
</tr>
<tr>
<td>2</td>
<td>The distribution of EPS is the same across categories of Bank.</td>
<td>Independent-Samples Mann-Whitney U Test</td>
<td>.000</td>
</tr>
<tr>
<td>3</td>
<td>The distribution of ROA is the same across categories of Bank.</td>
<td>Independent-Samples Mann-Whitney U Test</td>
<td>.207</td>
</tr>
<tr>
<td>4</td>
<td>The distribution of ROE is the same across categories of Bank.</td>
<td>Independent-Samples Mann-Whitney U Test</td>
<td>.000</td>
</tr>
</tbody>
</table>
Conclusion

The results are not as predicted by the literature and this raises some concern for the relationship between CEO compensation and the three common ratios that were used as proxies for the model. To start the use of EPS, ROA and ROE are widely reported in the popular financial press and are favoured in finance and accounting literature. However, if these ratios are not good predictors of CEO compensation then serious questions have to be asked about what CEO compensation is based on. The remuneration section of the financial reports of these banks are very explicit about the basis of the formulas for calculating bonuses and they all refer to performance for the improvement of the banks related to shareholders and yet if these ratios which are claimed to be indicators of performance for the benefit of shareholders are not good at matching compensation then perhaps questions have to be asked.

The other point that arises from this study concerns the differences between the CEO compensation that takes place in Australian banks as against the German banks. Here the results showed little difference of any significance and this suggests that the markets may not be so different as expected. Perhaps the Australian banks are as much at risk to the global financial crisis as the German banks, at least in the minds of the board of directors that set CEO compensation and remuneration packages. The differences between EPS, ROA and ROE are indicators that suggest this is not significant.

The small sample size may be viewed as a limitation to the study, however, the selection of the major banks was considered to be an appropriate means to compensate for any possible variation that can occur due to outliers likely to be caused by the inclusion of smaller firms. The model also had less variables and was therefore a simpler approach to examining the issues of compensation than some prior research however, these ratios had been the most common used in prior research and were therefore considered justifiable for consistency. In any case future research needs to be done to test the results across a wider range of banks and Countries. Interest may also be focused on finding why the standard ratios do not provide a better relationship to the compensation.

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