The Role of Boards in CEO Assessment: Evidence from Stock Returns after Subjective Performance Reviews

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Board and private information

• Board’s use of private soft information, advise and supervise the management

• Such information is hard to quantify
  – Management: filter, hide
  – Board: busy, or lazy

• Does the board use private information to fulfil their roles?
Board’s private information in CEO assessment

• Assessment of CEOs
  – Objective measures may incorporate performance with a delay
  – Inadequately account for certain aspects of performance
  – Rigged by CEOs

• Empirically, this is a great setting
  – Ex-ante CEO employment agreement from 10K, 10Q, and 8K (and their exhibits)
  – Ex-post the assessment outcomes from proxy statements
Subjective performance review setting

- Actual contracting practices
  - Subjective review clauses explicitly linked to potential raises in salary
  - More prevalent for firms with higher information asymmetry and outside CEOs

- A measure for soft information in positive reviews
  - Real salary increases in the absence of contemporaneous changes in equity-based compensation
  - Isolate from other concerns underlying incentive pay

- Ex-post outcome data
  - CEOs with subjective review clauses, more stand-alone salary raises
  - Firm justify such raises more often with “subjective” reasons
Results

• Positive stock returns prediction
  – A long–short portfolio strategy, abnormal returns of 2%–4% per year
  – Only for firms that schedule subjective performance reviews
  – Robust for controlling various risk factors and holds in forecasting regressions

• Positive firm activities, R&D outcomes
  – One year after, the number of news articles about new product developments increases by 17%
  – Average abnormal returns of 0.6% per product announcement
Results

• Stand-alone salary increases predict higher future returns in
  – More independent board, less busy board
  – Higher analyst forecast dispersion, higher idiosyncratic risk

• Robustness: other compensation measures based on bonus and equity
  – Company-wide plans, shareholder approval
  – More on this later
Contribution

• Built on the theoretical literature of subjective performance reviews
  – Baker, Gibbons, and Murphy, 1994; Hayes and Schaefer, 2000; Prendergast, 2002

• Explore the role of board and its use of private information
  – Cornelli, Kominek, and Ljungqvist (2013)

• Contribute to the literature of misvaluation of innovation
  – Chan, Lakonishok, and Sougiannis (2001); Eberhart, Maxwell, and Siddique (2004); Cohen, Diether, and Malloy (2013)
Data

- S&P 500 firms, 1994 - 2008
- Contracts data
  - 649 CEO employment agreements from 10K, 10Q, and 8K (and their exhibits)
  - Reasons for compensation changes from proxy statements
- Public data: ExecuComp, Compustat, CRSP, ISS, IBES, and S&P Capital IQ
- 5,242 obs excluding the first and last years of a CEO’s tenure
This Agreement, as amended, is made and entered into effective as of March 13, 2008 by and between The Charles Schwab Corporation, a Delaware Corporation (hereinafter referred to as the “Company”), and Charles R. Schwab, an individual (hereinafter referred to as the “Executive”).

(3) Compensation.

(a) Base Salary. During the term of this Agreement, the Company shall pay the Executive in periodic installments, a base salary at the annual rate of $900,000, such base salary to be reviewed on March 31, 2004, and on each subsequent anniversary the Board may adjust it up or down, taking into account, among other things, individual performance, competitive practice, and general business conditions.

(b) Annual Incentive. [...] the Executive shall be eligible to receive an annual incentive award based upon the Company’s attainment of pre-established performance targets relative to specified performance standards. [...] 

(c) Long-Term Incentive Compensation. The Executive will be considered for stock options in accordance with the Company’s 2001 Stock Incentive Plan [...]

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From the contracts

• More than half require reviews, link positive reviews to increases in base salary
  – Salary is not trivial: permanent, bonus multiple ×

• Explicit discretionary salary adjustments, more than 75%
  – Bonus and equity, about 5% and 13% respectively
  – Subject to company-wide plans and shareholder approval
  – Other channels: negotiation
  – Other concerns underlying incentive effects

• Factors on which a review is based, less than 10%
How to identify the Board’s private information

- Classify a change in salary as a *raise* only if the CEO’s “real” salary growth is positive

![Pie chart showing the distribution of salary changes: 69.4% Real raises, 25.4% No significant change (real cut, no nominal cut), 5.2% Cuts (nominal).]
How to identify the Board’s private information

- Classify salary raises by contemporaneous changes in equity pay (awards compared to last award)

![Pie chart showing salary raises](chart.jpg)

- Stand-alone salary raise: 66.3%
- Raise in equity pay: 18.2%
- Cut in equity pay: 14.7%

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Ex-post review outcome

Reasons for compensation changes:
- Objective reasons (7.4%)
- General non-specified performance (40%)
- Subjective reasons (16.8%)
- No reasons (33.26%)

With review clauses, greater likelihood of:
- Stand-alone salary increases (7.5%)
- Stand-alone salary increases with good subjective reasons or no reasons (8.1%)

**Consistent** with ex-ante incentive design and ex-post review outcome
Do CEOs deserve their raises? Portfolio returns

<table>
<thead>
<tr>
<th>Compensation changes</th>
<th>3-factor alpha</th>
<th>4-factor alpha</th>
<th>DGTW adjusted</th>
<th>3-factor alpha</th>
<th>4-factor alpha</th>
<th>DGTW adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 year after portfolio formation</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td>(6)</td>
</tr>
<tr>
<td>Stand-alone salary increase</td>
<td>0.56%</td>
<td>0.59%</td>
<td>0.67%</td>
<td>0.51%</td>
<td>0.56%</td>
<td>0.58%</td>
</tr>
<tr>
<td>No change in salary</td>
<td>0.42%</td>
<td>0.48%</td>
<td>0.37%</td>
<td>0.66%</td>
<td>0.69%</td>
<td>0.44%</td>
</tr>
<tr>
<td>Spread</td>
<td>0.14%</td>
<td>0.11%</td>
<td>0.29%</td>
<td>-0.16%</td>
<td>-0.13%</td>
<td>0.13%</td>
</tr>
<tr>
<td>T-stat</td>
<td>2.45</td>
<td>2.08</td>
<td>2.50</td>
<td>-0.79</td>
<td>-0.63</td>
<td>1.15</td>
</tr>
</tbody>
</table>

**Panel A: Stand-alone salary increases**

<table>
<thead>
<tr>
<th>Compensation changes</th>
<th>3-factor alpha</th>
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<th>DGTW adjusted</th>
<th>3-factor alpha</th>
<th>4-factor alpha</th>
<th>DGTW adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 years after portfolio formation</td>
<td>(4)</td>
<td>(5)</td>
<td>(6)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>Stand-alone salary increase</td>
<td>0.53%</td>
<td>0.56%</td>
<td>0.63%</td>
<td>0.43%</td>
<td>0.50%</td>
<td>0.29%</td>
</tr>
<tr>
<td>No change in salary</td>
<td>0.18%</td>
<td>0.24%</td>
<td>0.24%</td>
<td>0.52%</td>
<td>0.55%</td>
<td>0.20%</td>
</tr>
<tr>
<td>Spread</td>
<td>0.35%</td>
<td>0.32%</td>
<td>0.39%</td>
<td>-0.08%</td>
<td>-0.05%</td>
<td>0.09%</td>
</tr>
<tr>
<td>T-stat</td>
<td>3.13</td>
<td>2.85</td>
<td>2.80</td>
<td>-1.27</td>
<td>-1.12</td>
<td>0.70</td>
</tr>
</tbody>
</table>

**Panel B: Stand-alone salary increases—excluding 2001-2003**

- Stocks are sorted using the filing dates of proxy statements in which firms report their most recent CEO compensation
- These portfolios include all companies that made the same type of compensation changes and filed their proxy statements within the preceding 12 months
- Equal-weighted portfolios for each month
Do CEOs deserve their raises? Portfolio returns

<table>
<thead>
<tr>
<th>Compensation changes</th>
<th>3-factor alpha</th>
<th>4-factor alpha</th>
<th>DGTW adjusted</th>
<th>3-factor alpha</th>
<th>4-factor alpha</th>
<th>DGTW adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 year after portfolio formation</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td>(6)</td>
</tr>
<tr>
<td>Spread_subjective reason</td>
<td>0.17%</td>
<td>0.15%</td>
<td>0.23%</td>
<td>-0.15%</td>
<td>-0.12%</td>
<td>0.08%</td>
</tr>
<tr>
<td>T-stat</td>
<td>2.36</td>
<td>2.08</td>
<td>1.91</td>
<td>-0.73</td>
<td>-0.60</td>
<td>0.68</td>
</tr>
<tr>
<td>Spread_objective reason</td>
<td>-0.37%</td>
<td>-0.45%</td>
<td>0.63%</td>
<td>0.06%</td>
<td>0.04%</td>
<td>0.35%</td>
</tr>
<tr>
<td>T-stat</td>
<td>-0.20</td>
<td>-0.65</td>
<td>1.44</td>
<td>1.32</td>
<td>1.01</td>
<td>0.18</td>
</tr>
</tbody>
</table>

Panel C: Stand-alone salary increases: reasons

<table>
<thead>
<tr>
<th>Compensation changes</th>
<th>3-factor alpha</th>
<th>4-factor alpha</th>
<th>DGTW adjusted</th>
<th>3-factor alpha</th>
<th>4-factor alpha</th>
<th>DGTW adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 years after portfolio formation</td>
<td>(4)</td>
<td>(5)</td>
<td>(6)</td>
<td>(7)</td>
<td>(8)</td>
<td>(9)</td>
</tr>
<tr>
<td>Spread_review clause</td>
<td>0.49%</td>
<td>0.44%</td>
<td>0.45%</td>
<td>0.23%</td>
<td>0.18%</td>
<td>0.12%</td>
</tr>
<tr>
<td>T-stat</td>
<td>2.33</td>
<td>2.07</td>
<td>2.96</td>
<td>1.04</td>
<td>0.89</td>
<td>1.26</td>
</tr>
<tr>
<td>Spread_without review clause</td>
<td>0.24%</td>
<td>0.07%</td>
<td>0.07%</td>
<td>-1.13%</td>
<td>-1.02%</td>
<td>-0.02%</td>
</tr>
<tr>
<td>T-stat</td>
<td>1.58</td>
<td>0.79</td>
<td>0.45</td>
<td>-1.58</td>
<td>-1.54</td>
<td>-0.14</td>
</tr>
</tbody>
</table>

Panel D: Stand-alone salary increases: review clauses

- Compensation changes based on subjective reviews explain a large and significant spread in future abnormal returns.
Do CEOs deserve their raises? Cross-sectional regressions

- To isolate further the marginal effect of compensation changes on future stock returns

\[ \text{RET}_{i,s} = \alpha + \beta \cdot 1(\Delta \text{Salary}_{i,t} > 0) + \gamma \cdot \text{Control} + \varepsilon_{i,s} \]

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Monthly stock return after 1 year</th>
<th>Monthly stock return after 2 years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>Stand-alone salary increase</td>
<td>0.003*** (0.001)</td>
<td>0.003*** (0.001)</td>
</tr>
<tr>
<td>Other controls</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Firm cluster</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Two way cluster</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Fama-Macbeth</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>N</td>
<td>96,695</td>
<td>96,695</td>
</tr>
</tbody>
</table>
Mechanism

- Innovation as one example in which information about success is seldom incorporated into stock returns until later

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Number of product announcements</th>
<th>CARs to product announcements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>After 1 year (1)</td>
<td>After 2 years (2)</td>
</tr>
<tr>
<td>Stand-alone salary increase</td>
<td>0.169** (0.085)</td>
<td>0.016 (0.089)</td>
</tr>
<tr>
<td>Overall compensation increase</td>
<td>0.107 (0.16)</td>
<td>-0.059 (0.164)</td>
</tr>
<tr>
<td>Salary increase &amp; equity decrease</td>
<td>-0.012 (0.109)</td>
<td>-0.008 (0.135)</td>
</tr>
<tr>
<td>Year fixed effects</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Firm fixed effects</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.321</td>
<td>0.276</td>
</tr>
<tr>
<td>N</td>
<td>2,569</td>
<td>2,588</td>
</tr>
</tbody>
</table>

- Stand-alone salary raises are a good predictor of the future success of a firm’s research activities
Heterogeneity in information and board effectiveness

**Information asymmetry**

- Investors underreact more to compensation information
- Analyst forecast dispersion 0.3-bps, idiosyncratic risk 2.1-bps

**Board effectiveness**

- Less likely to award CEO salary increases irrespective of the actual performance
- Less busy board 40-bps, more independent directors% 30-bps

Soft information is most valuable in predicting returns in these firms
Conclusion

• A novel proxy of positive review: CEO salary raises

• Explicit review clauses --> subjectively justified stand-alone salary increases

• Predicts long-run stock returns and firm activities

• Boards seem to use private information properly to reward CEOs