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

Moqi Groen-Xu (LSE)
Peggy Huang (SEC)
Yiqing Lü (NYU Shanghai)

ABFER 2017

# 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

# An example

EMPLOYMENT AGREEMENT

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. […]

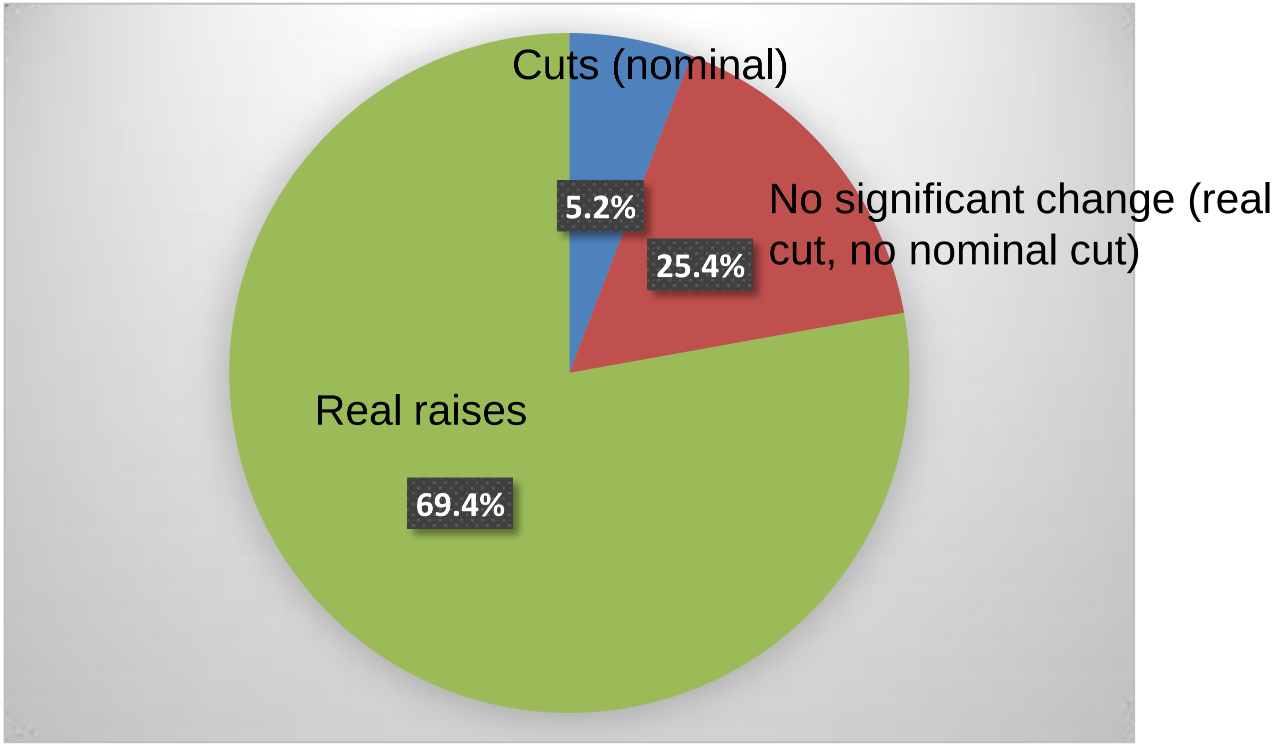
**(c)Long-Term Incentive Compensation**. The Executive will be considered for stock options in accordance with the Company’s 2001 Stock Incentive Plan […]

# From the contracts

- More than half require reviews, link positive reviews to increases in base salary
  - Salary is not trivial: permanent, bonus multiple $\times$
- 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%

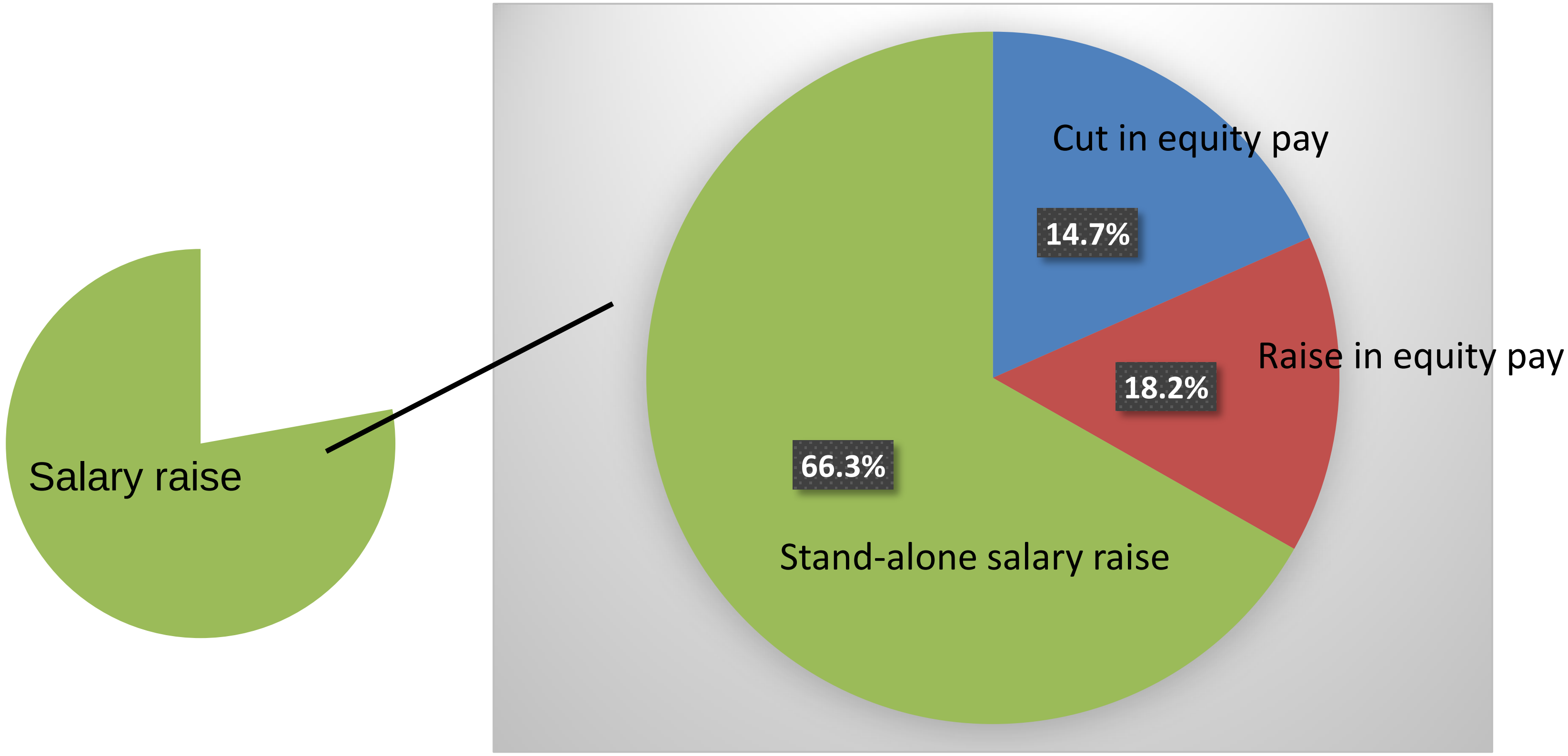
# How to identify the Board's private information

- Classify a change in salary as a *raise* only if the CEO's "real" salary growth is positive



# How to identify the Board's private information

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



# 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

| Compensation changes | 3-factor alpha | 4-factor alpha | DGTW adjusted | 3-factor alpha | 4-factor alpha | DGTW adjusted |
|---|---|---|---|---|---|---|
| | 1 year after portfolio formation | | | 2 years after portfolio formation | | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| *Panel A: Stand-alone salary increases* | | | | | | |
| Stand-alone salary increase | 0.56% | 0.59% | 0.67% | 0.51% | 0.56% | 0.58% |
| No change in salary | 0.42% | 0.48% | 0.37% | 0.66% | 0.69% | 0.44% |
| Spread | **0.14%** | **0.11%** | **0.29%** | -0.16% | -0.13% | 0.13% |
| T-stat | 2.45 | 2.08 | 2.50 | -0.79 | -0.63 | 1.15 |
| *Panel B: Stand-alone salary increases—excluding 2001-2003* | | | | | | |
| Stand-alone salary increase | 0.53% | 0.56% | 0.63% | 0.43% | 0.50% | 0.29% |
| No change in salary | 0.18% | 0.24% | 0.24% | 0.52% | 0.55% | 0.20% |
| Spread | **0.35%** | **0.32%** | **0.39%** | -0.08% | -0.05% | 0.09% |
| T-stat | 3.13 | 2.85 | 2.80 | -1.27 | -1.12 | 0.70 |

- 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

| Compensation changes | 3-factor alpha | 4-factor alpha | DGTW adjusted | 3-factor alpha | 4-factor alpha | DGTW adjusted |
|---|---|---|---|---|---|---|
| | 1 year after portfolio formation | | | 2 years after portfolio formation | | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| *Panel C: Stand-alone salary increases: reasons* | | | | | | |
| Spread_subjective reason | **0.17%** | **0.15%** | **0.23%** | -0.15% | -0.12% | 0.08% |
| T-stat | 2.36 | 2.08 | 1.91 | -0.73 | -0.60 | 0.68 |
| Spread_objective reason | -0.37% | -0.45% | 0.63% | 0.06% | 0.04% | 0.35% |
| T-stat | -0.20 | -0.65 | 1.44 | 1.32 | 1.01 | 0.18 |
| *Panel D: Stand-alone salary increases: review clauses* | | | | | | |
| Spread_review clause | **0.49%** | **0.44%** | **0.45%** | 0.23% | 0.18% | 0.12% |
| T-stat | 2.33 | 2.07 | 2.96 | 1.04 | 0.89 | 1.26 |
| Spread_without review clause | 0.24% | 0.07% | 0.07% | -1.13% | -1.02% | -0.02% |
| T-stat | 1.58 | 0.79 | 0.45 | -1.58 | -1.54 | -0.14 |

- 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

$$\text{RET}_{i,s} = \alpha + \beta * \mathbf{1}(\Delta Salary_{i,t} > 0) + \gamma * Control + \varepsilon_{i,s}$$

| Dependent variable | Monthly stock return after 1 year | | | Monthly stock return after 2 years | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Stand-alone salary increase | 0.003*** | 0.003*** | 0.002** | 0.002** | 0.002** | 0.000 |
| | (0.001) | (0.001) | (0.010 ) | (0.001) | (0.001) | (0.010 ) |
| Other controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm cluster | Yes | No | No | Yes | No | No |
| Two way cluster | No | Yes | No | No | Yes | No |
| Fama-Macbeth | No | No | Yes | No | No | Yes |
| N | 96,695 | 96,695 | 96,695 | 96,683 | 96,683 | 96,695 |

# Mechanism

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

| Dependent Variable | Number of product announcements | | CARs to product announcements | |
|---|---|---|---|---|
| | After 1 year | After 2 years | After 1 year | After 2 years |
| | (1) | (2) | (3) | (4) |
| Stand-alone salary increase | 0.169** | 0.016 | 0.006*** | 0.001 |
| | (0.085) | (0.089) | (0.002) | (0.004) |
| Overall compensation increase | 0.107 | -0.059 | 0.003 | -0.005 |
| | (0.16) | (0.164) | (0.003) | (0.005) |
| Salary increase & equity decrease | -0.012 | -0.008 | -0.001 | -0.001 |
| | (0.109) | (0.135) | (0.004) | (0.005) |
| Year fixed effects | Yes | Yes | Yes | Yes |
| Firm fixed effects | Yes | Yes | Yes | Yes |
| R-squared | 0.321 | 0.276 | 0.373 | 0.134 |
| N | 2,569 | 2,588 | 2,569 | 2,588 |

- 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