Corporate Reputation, Firm Growth and Risk

Intangibles: The European State of the Art
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Manfred Schwaiger
Institute for Market-based Management (IMM)
Kaulbachstraße 45/I
D-80539 München
phone +49 89 2180-5640
Fax +49 89 2180-5651
e-mail schwaiger@lmu.de
www http://www.imm.bwl.lmu.de

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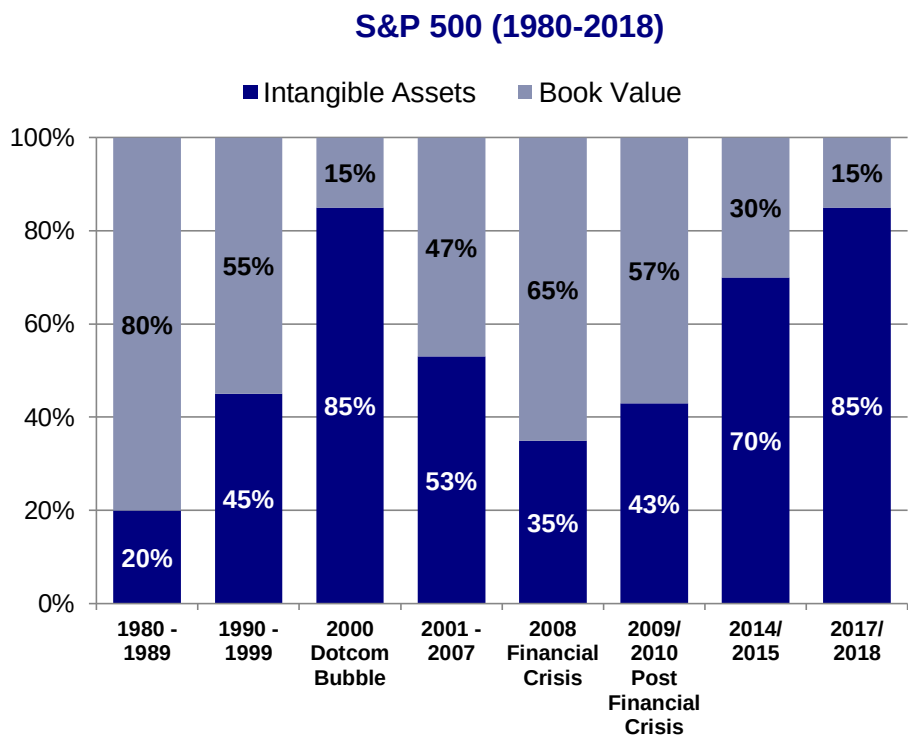
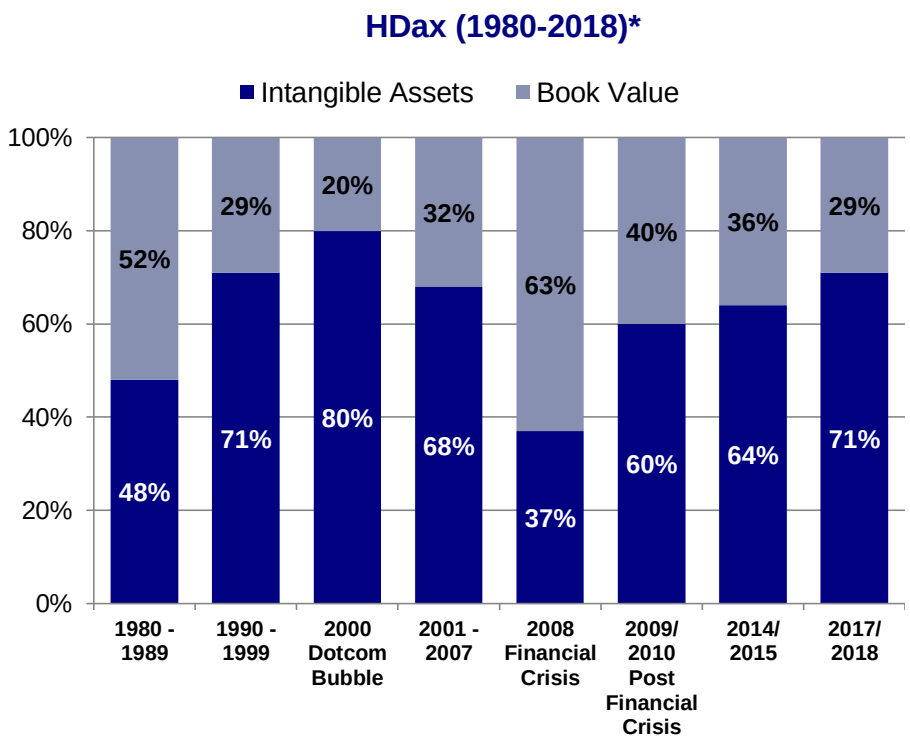
A company‘s market value can hardly be derived from tangible assets…

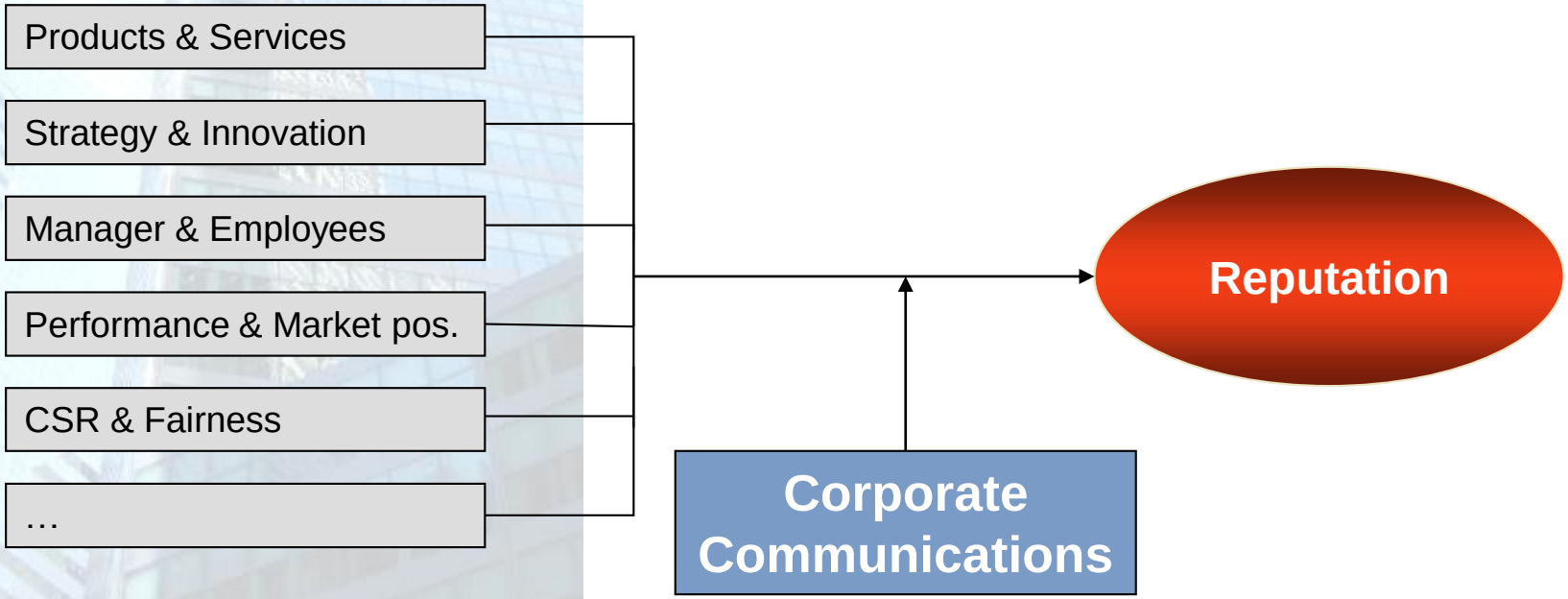




Sources:
Ballow/Burgman/Roos/Molnar: “A New Paradigm for Managing Shareholder Value, July 2004, p. 7
Lev: Intangibles: Management, Measurement, and Reporting,” Brookings Institution Press, 2001
Lev: Remarks on the Measurement, Valuation, and Reporting of Intangible Assets. Economic Policy Review, Sept. 2003
Thomson Reuters Datastream
* HDAX contains stocks of 110 largest, publicly listed corporations in Germany (DAX, MDAX, TecDAX)

… the central intangible asset is a company‘s corporate reputation

<u>Reputation:</u> general evaluation of a company by its various stakeholders.
Incorporates both, **cognitive and emotional components**.
An assessment of reputation is based on **factual experiences** as well as on **perceptions** relying on communicated messages.



Sources: Schwaiger/Cannon 2004, Sobol et al. 1992 ; Fombrun 1996; Gray/Ballmer 1998; Hall 1992; De Quevedo 2001 ; Tucker/Melewar 2005

How to measure reputation?
A comparison of different approaches

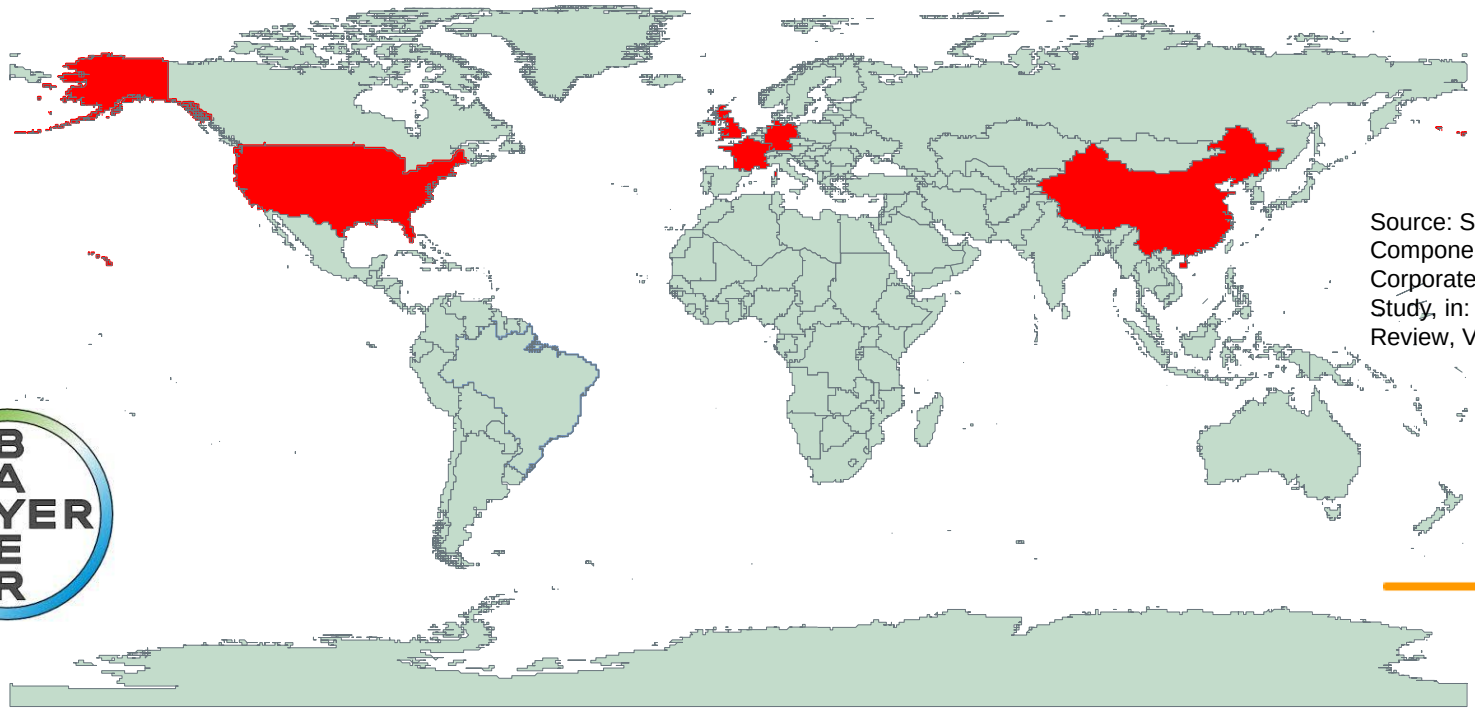
Variance explanation (R^2) of respective focal constructs by measurement concept

	AMAC	GMAC	RQ	RepTrak	CBR	Helm	Schwaiger
Convergence validity							
Reputation (overall)	52%**	52%**	61%*	57%**	61%*	59%**	**62%**
Criterion validity							
Cust. Satisfaction	41%**	42%**	72%*	70%**	66%**	57%**	**73%**
Loyality	38%**	39%**	**71%**	66%**	63%**	56%**	**71%**
Trust	49%**	52%**	**85%**	71%**	73%**	55%**	79%**
Commitment	34%**	37%**	**53%**	45%**	41%**	38%**	50%*
Word-of-Mouth	36%**	38%**	69%*	65%**	63%**	57%**	**70%**

** and * indicate a significant difference between the best-performing approach (printed in bold) and the measure under consideration at a level of 5% and 10%, respectively.

Source: **Wilczynski, P.; Sarstedt, M.; Melewar, T. C.** (2013): Measuring Reputation in Global Markets - A Comparison of Reputation Measures' Convergent and Criterion Validities, in: Journal of World Business, Vol. 48 (3), 329–339

Our reputation model is based on a multinational data



Source: Schwaiger, M. (2004): Components and Parameters of Corporate Reputation – an Empirical Study, in: Schmalenbach Business Review, Vol. 56, S. 46-71

Reputation is measured by means of six items

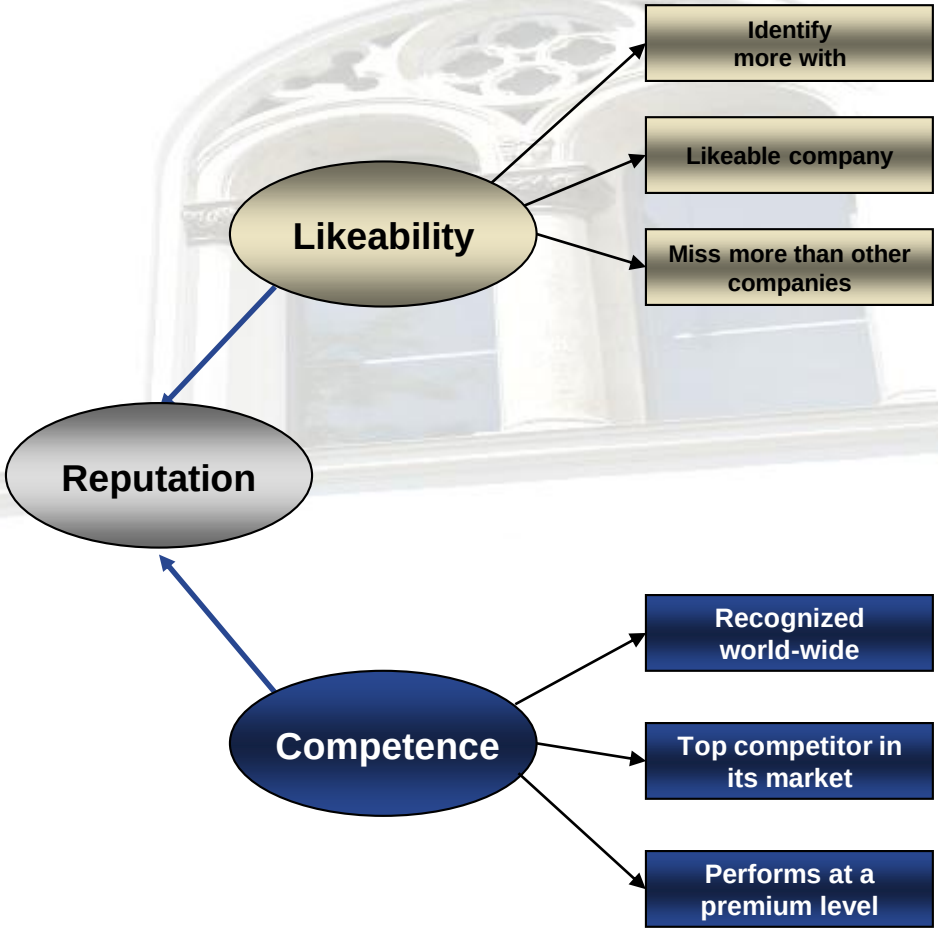
Design of the study

General public: CATI
Opinion leader: CAPI
Recruiting Market: Online

Data collection:
TNS Infratest

About 2.000 / 300 / 2000 interviews, 50-60 companies

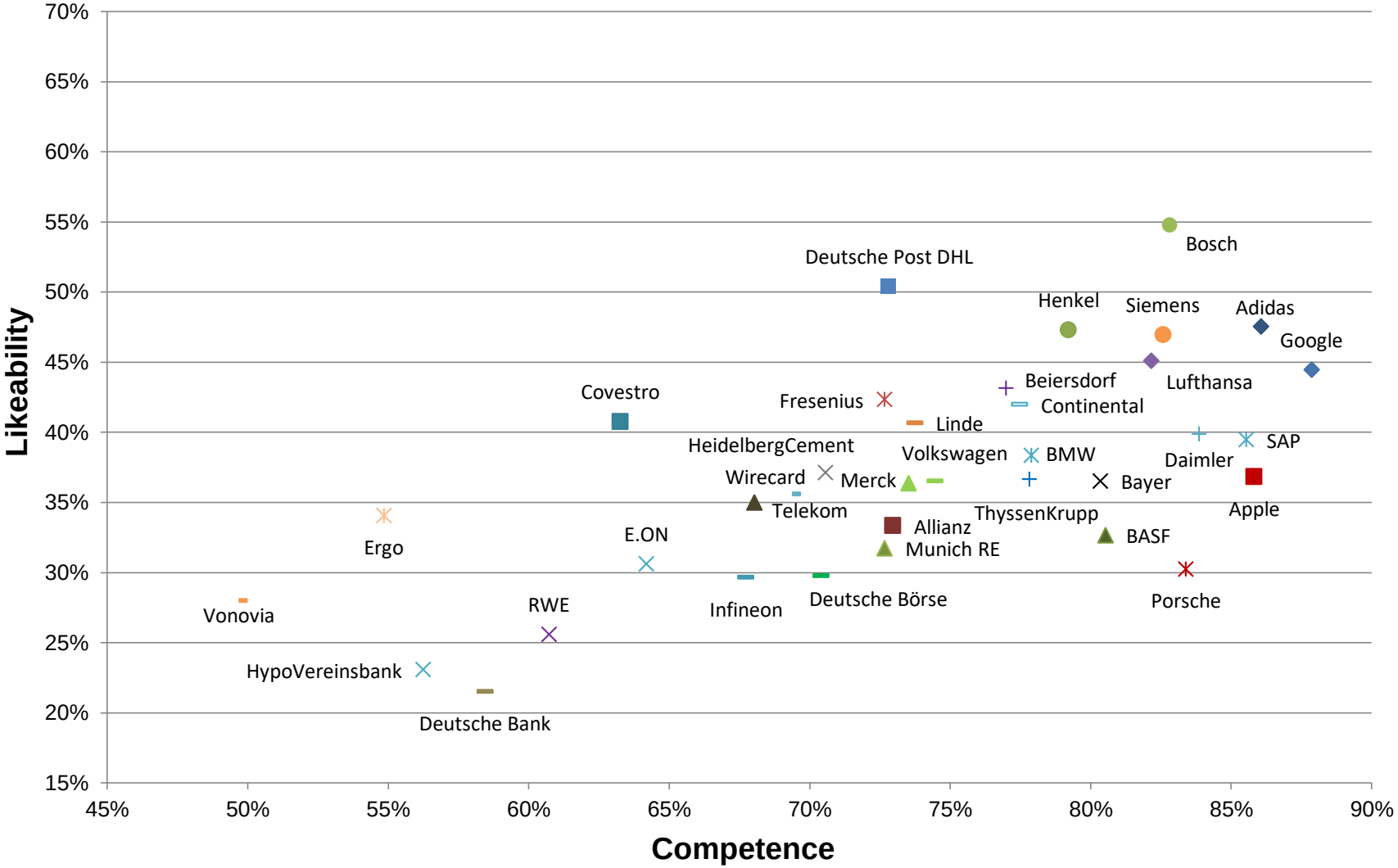
Companies selected for evaluation have to be known at least by name



Corporate Reputation Portfolio

November 2018, n = 1,200, per company n ≥ 130

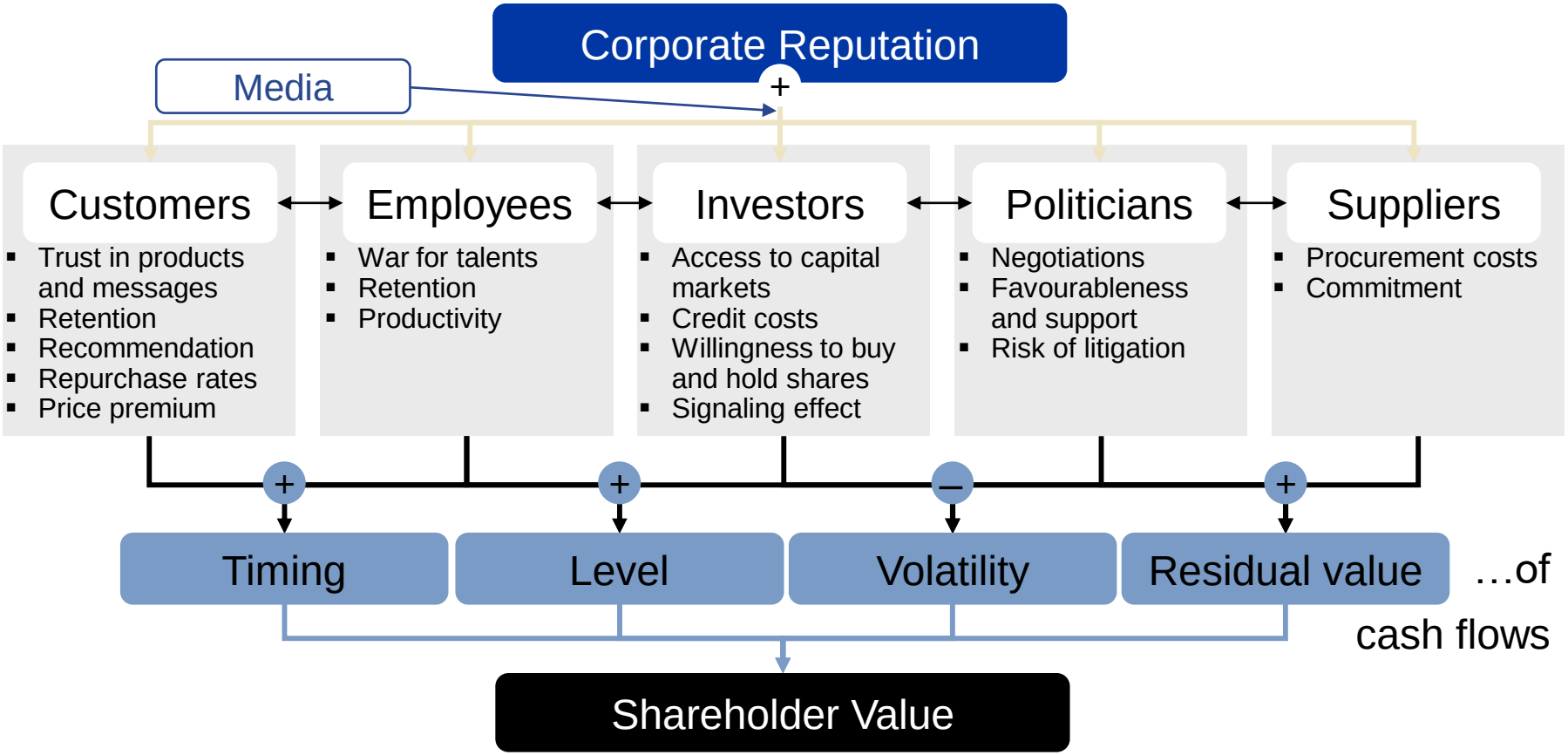
Online



1. Reputation and Stock Performance

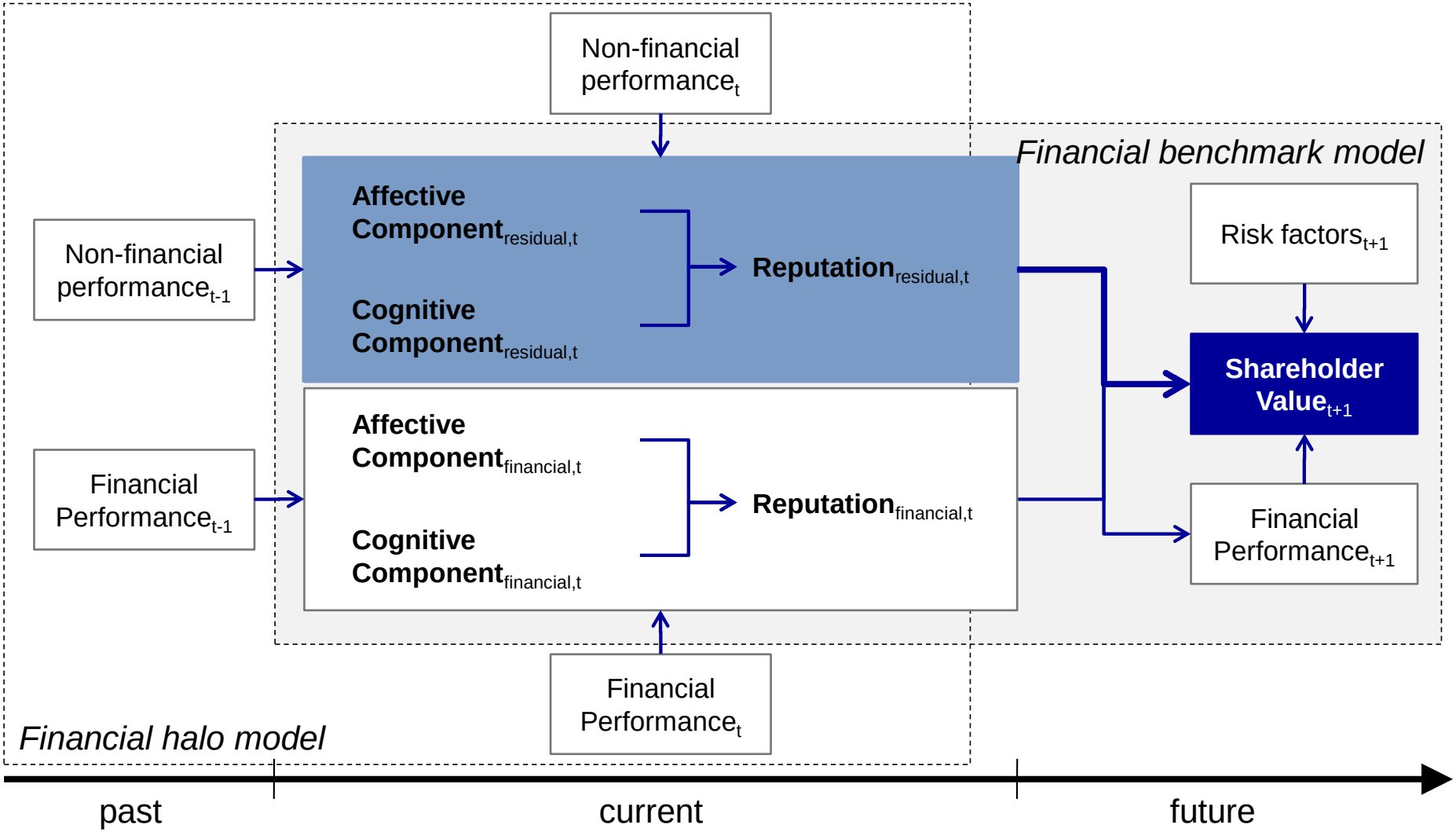
Raithel, S.; Schwaiger, M. (2015): The Effects of Corporate Reputation Perceptions of the General Public on Shareholder Value, *Strategic Management Journal* 36 (6), 945-956

Impact of corporate reputation on shareholder value



References: Schwaiger and Raithel 2014; Pfarrer et al. (2010); Walsh and Beatty (2007); Dowling (2006); Eberl and Schwaiger (2005); Rao et al. (2004); Shamsie (2003); Dunbar and Schwalbach (2002); Mahon (2002); Roberts and Dowling (2002); Frooman (1999); Lafferty and Goldsmith (1999); Compés López and Poole (1998); Srivastava et al. (1998); Deephouse (1997); Caruana (1997); Hunt and Morgan (1995); Amit and Schoemaker (1993); Hall (1993); Peteraf (1993); Yoon et al. (1993); Caminiti (1992); Hall (1992); Sobol et al. (1992); Fombrun and Shanley (1990); Goldberg and Hartwig (1990); McGuire et al. (1990); Weigelt and Camerer (1988); Itami (1987); Beatty and Ritter (1986); Milgrom and Roberts (1986); Shapiro (1983, 1982); Klein and Leffler (1981)

Analytical framework



References: Brown and Perry (1994); Eberl and Schwaiger (2005); Hildebrandt and Schwalbach (2000); Roberts and Dowling (2002); Schwalbach (2000)

Methodological approach

1

Financial halo model

- Model: Management efficiency, value characteristics, size, growth, and risk
- Estimation: General Estimation Equations (GEE)
- Result: Residual (financial halo-removed) reputation

2

Portfolio analysis

- Raw returns of reputation-sorted portfolios
- Alternative models: CAPM, the 3- and 4-factor Fama and French financial benchmark model + co-occurring accounting control variable
- Alternative benchmarks: Fama-French market factor, MSCI Germany, MSCI Europe, and MSCI World
- Estimation: Heteroscedastic-consistent OLS
- Result: Abnormal returns of zero-investment portfolios

References: O'Sullivan et al. (2009); Aksoy et al. (2008); Madden et al. (2006); Roberts and Dowling (2002); Mitchell and Stafford (2000); Lyon et al. (1999); Carhart (1997); Barber and Lyon (1997); Kothari and Warner (1997); Brown and Perry (1994); Fama and French (1993); Jegadeesh and Titman (1993)

Data

Reputation data

- Corporate Reputation Monitor©
- **DAX-30** firms included
- Representative sample of **general public in Germany** was surveyed: N ranges from from 1,251 to 2,465
- CATI; interviews were performed by TNS Infratest
- **13 waves** analysed: 12/2005, 06/2006, 12/2006, 06/2007, 12/2007, 06/2008, 12/2008, 06/2009, 12/2009, 06/2010, 12/2010, 06/2011, 12/2011
- # of DAX firms: 27-30 per wave

Financial data

- Company level data: Datastream
- Stock returns are dividend and stock split adjusted
- FF model risk factors: Fama & French website
- Timeframe: 30/12/2005 – 31/05/2012
- Stocks which entered/left the DAX were included/excluded from the following wave

Financial halo model: Controlling the performance effect

Two-way error component model is applied:

$$Rpt_{iw} = \alpha_0 + \beta_1 \cdot ROA_{iw} + \beta_2 \cdot MTBV_{iw} + \beta_3 \cdot \ln MV_{iw}$$
$$+ \beta_4 \cdot \Delta MV_{iw} + \beta_5 \cdot BETA_{iw} + \mu_i + \lambda_w + \varepsilon_{iw}$$

Idiosyncratic (non-financial) score

Between-firm variation vs. within-firm variation

Rpt_{iw} : Measured score of reputation

ROA_{iw} : Return on Assets of company *i* in wave *w*

$MTBV_{iw}$: Market – to – Book value of company *i* in wave *w*

MV_{iw} : Market value of company *i* in wave *w*

ΔMV_{iw} : Growth of market value of company *i* from wave *w-1* to *w*

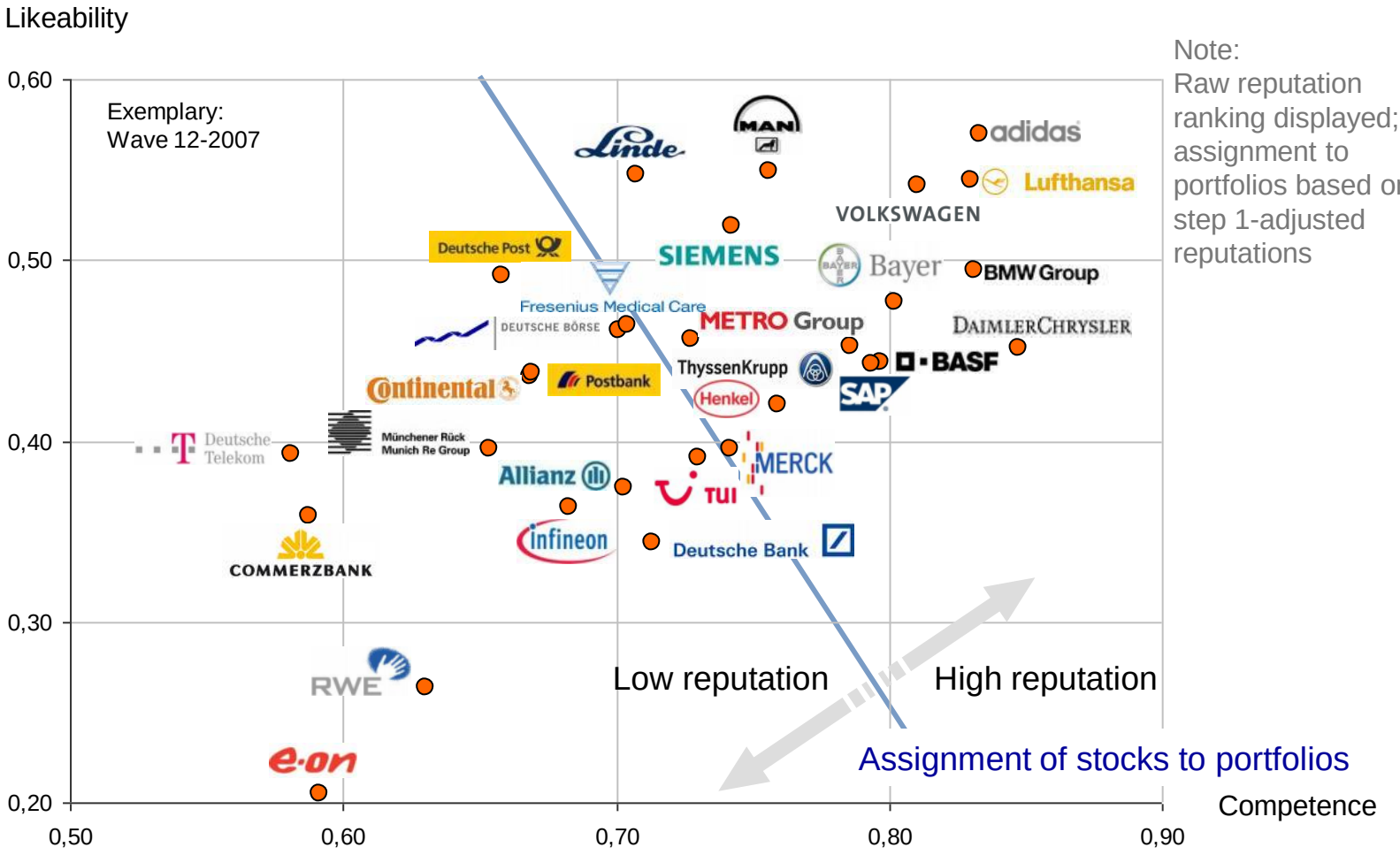
$BETA_{iw}$: Systematic risk of company *i* in wave *w*

μ_i : Firm - fixed effect

λ_w : Time - fixed effect

References: Brown and Perry (1994); Eberl and Schwaiger (2005); Roberts and Dowling (2002); Black et al. (2000); Baucus (1995)

Step 2: Analysis of reputation portfolios



Note:
Raw reputation ranking displayed; assignment to portfolios based on step 1-adjusted reputations

Applied financial benchmark models

$$R_{Pt} - R_{RFt} = \alpha_P + \beta_P \cdot (R_{Mt} - R_{RFt}) + s_P \cdot SMB_t + h_P \cdot HML_t + u_P \cdot UMD_t + a_P \cdot AP_t + \varepsilon_{Pt}$$

CAPM

3 factor FF

4 factor FF

4 factor FF + variable controlling for co-occurring accounting performance

R_{Pt} : Dividend and stock split adjusted return of portfolio P in month t

R_{RFt} : Risk - free interest rate in month t

R_{Mt} : Return of market benchmark portfolio M in month t

SMB_t : Return of small minus return of big stocks portfolios in month t

HML_t : Return of high minus return of low book - to - market ratio portfolios in month t

UMD_t : Return of upward minus return of downward momentum portfolios in month t

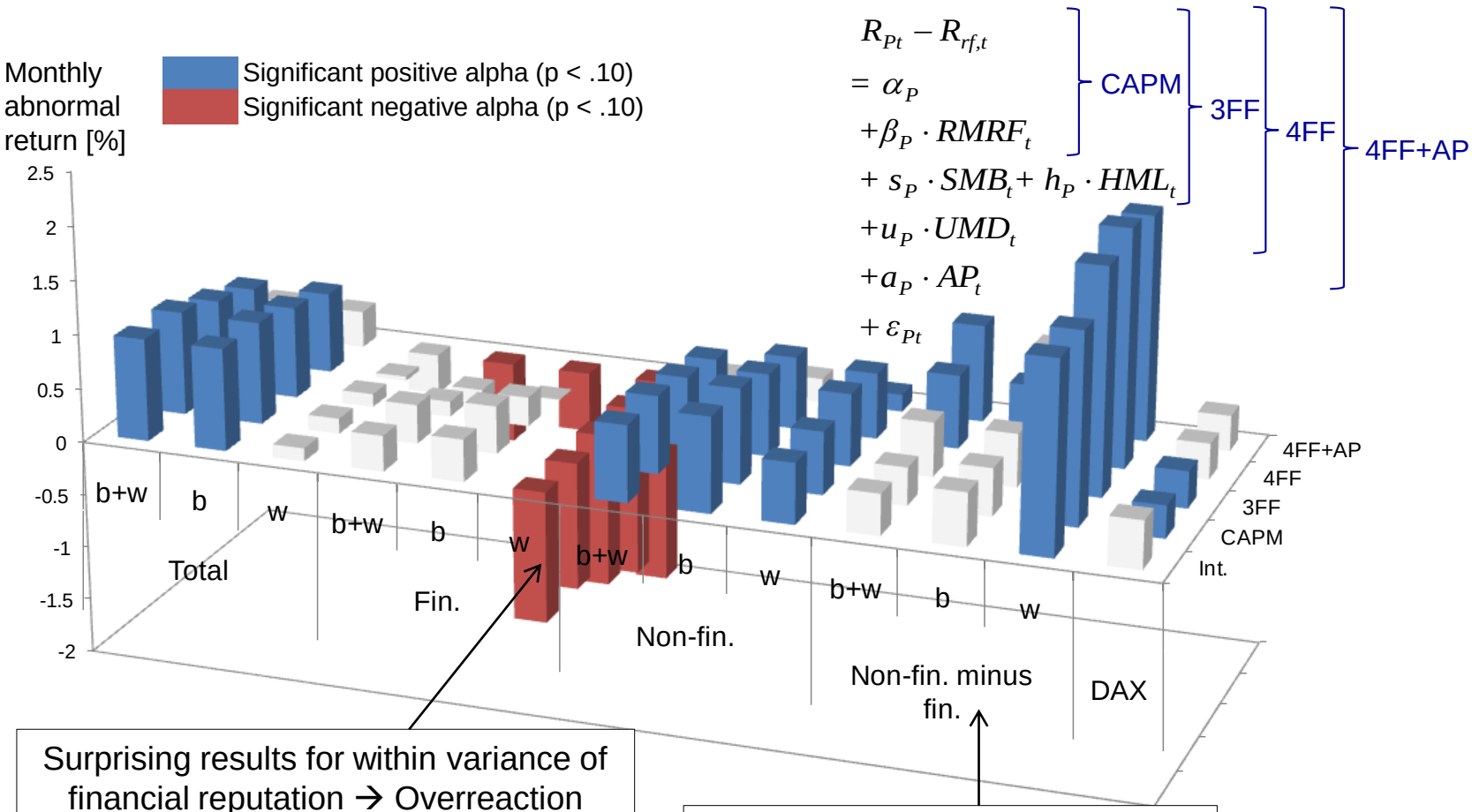
AP_t : Return of positive minus return of negative profit surprise portfolios in month t

α_P : Monthly abnormal return of portfolio P

Standard errors of the coefficients adjusted by heteroskedasticity and autocorrelation consistent OLS estimator (Newey and West, 1987).

References: Carhart (1997); Fama and French (1993); Jegadeesh and Titman (1993)

High minus low-score portfolios (zero investment strategy)



$$R_{Pt} - R_{rf,t} = \alpha_P + \beta_P \cdot RMRF_t + s_P \cdot SMB_t + h_P \cdot HML_t + u_P \cdot UMD_t + a_P \cdot AP_t + \varepsilon_{Pt}$$

CAPM | 3FF | 4FF | 4FF+AP

Surprising results for within variance of financial reputation → Overreaction hypothesis (George and Hwang, 2007)

Non-financial reputation is **more valuable** than financial reputation

b+w Variation both within and between firms' total reputations
w Variation only within firms' total reputations
b Variation only between firms' total reputations

Robustness checks

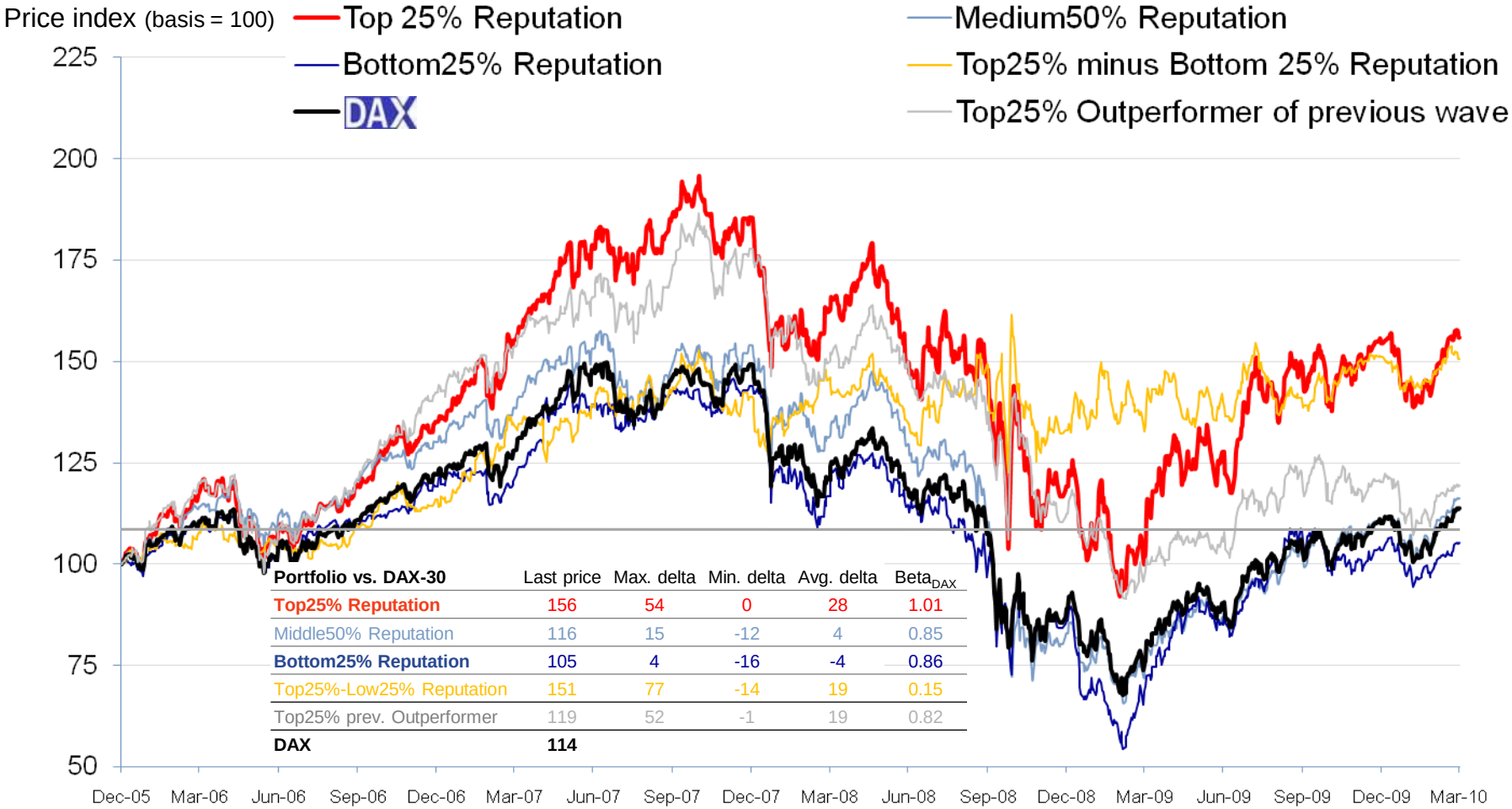
- **Benchmark models:**
  Intercept only, CAPM, 3FF, 4FF, 4FF with accounting performance control
- **Benchmarks:**
  Fama-French European Factor, MSCI Germany, MSCI Europe, MSCI World
- **Stock weighting schemes:**
  Equal vs. value weighted
- **Threshold values:**
  Median vs. quartile splits
- **Market phases:**
  Bullish vs. bearish periods
- **Components of reputation:**
  Affective vs. cognitive component

→ These alterations produce similar results

So what?!

- Results are „rigorous“: BHAR significant in state-of-the-art models
- But are they relevant?

Reputation champions outperform the DAX-30 index
(Top 25% vs. Bottom 25%, equal weighted)

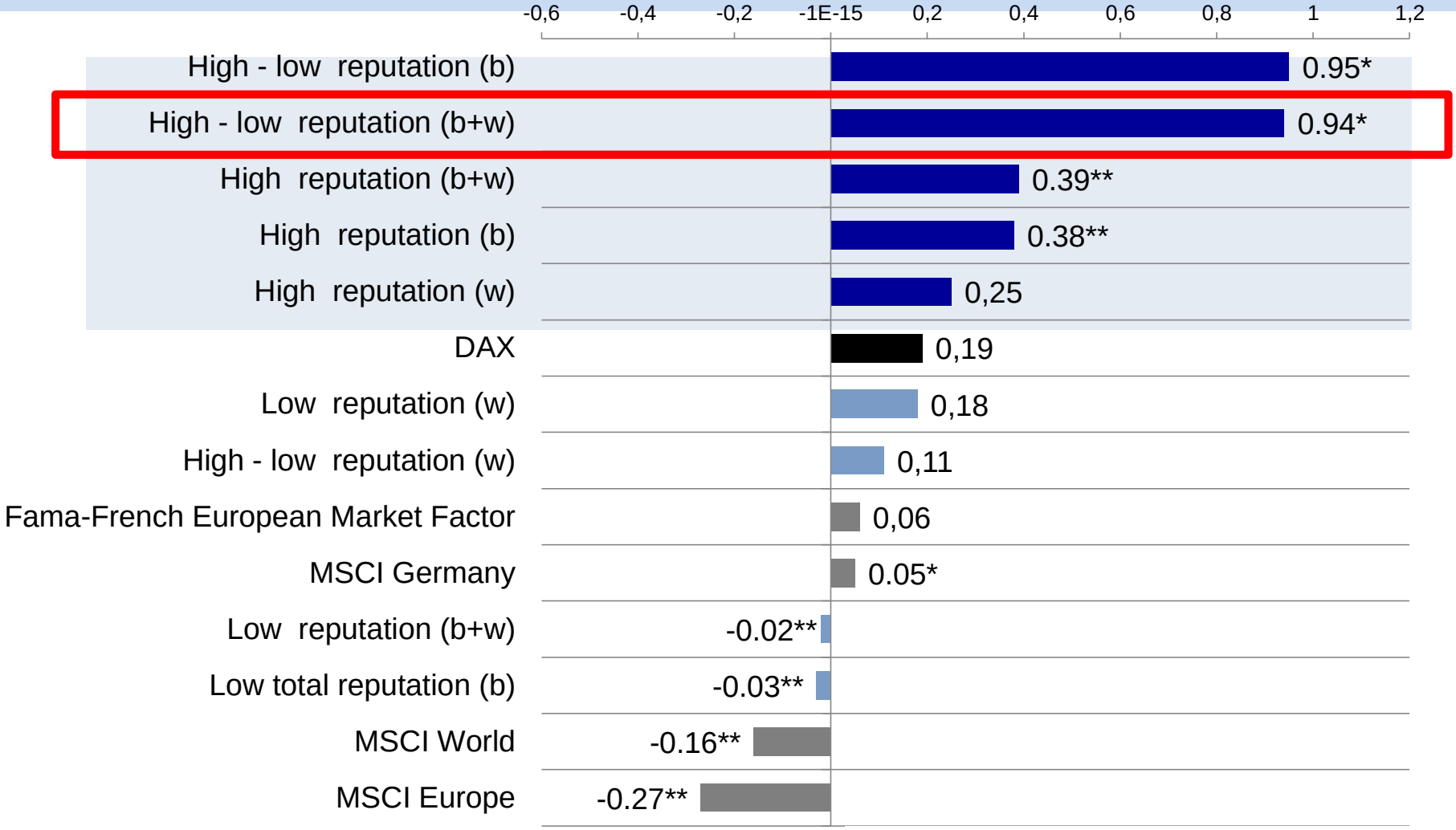


Portfolio vs. DAX-30	Last price	Max. delta	Min. delta	Avg. delta	$Beta_{DAX}$
Top25% Reputation	156	54	0	28	1.01
Middle50% Reputation	116	15	-12	4	0.85
Bottom25% Reputation	105	4	-16	-4	0.86
Top25%-Low25% Reputation	151	77	-14	19	0.15
Top25% prev. Outperformer	119	52	-1	19	0.82
DAX	**114**				

Corporate reputation data:
Source: IMM Corporate Reputation Monitor©
9 waves analyzed: 2005-12, 2006-06, 2006-12, 2007-06, 2007-12, 2008-06, 2008-12, 2009-06, 2009-12
Sample size ranges between 26 to 28 DAX firms
During each wave a representative sample of the German general public was surveyed

Stock market data:
Source: Datastream
Period: 30/12/2005 – 31/3/2010
Dividends included
Weighting schemes: DAX stocks are weighted by market value; reputation portfolio stocks are weighted equally
(Note: similar results for market value weighting)

Sharpe ratios of porfolios

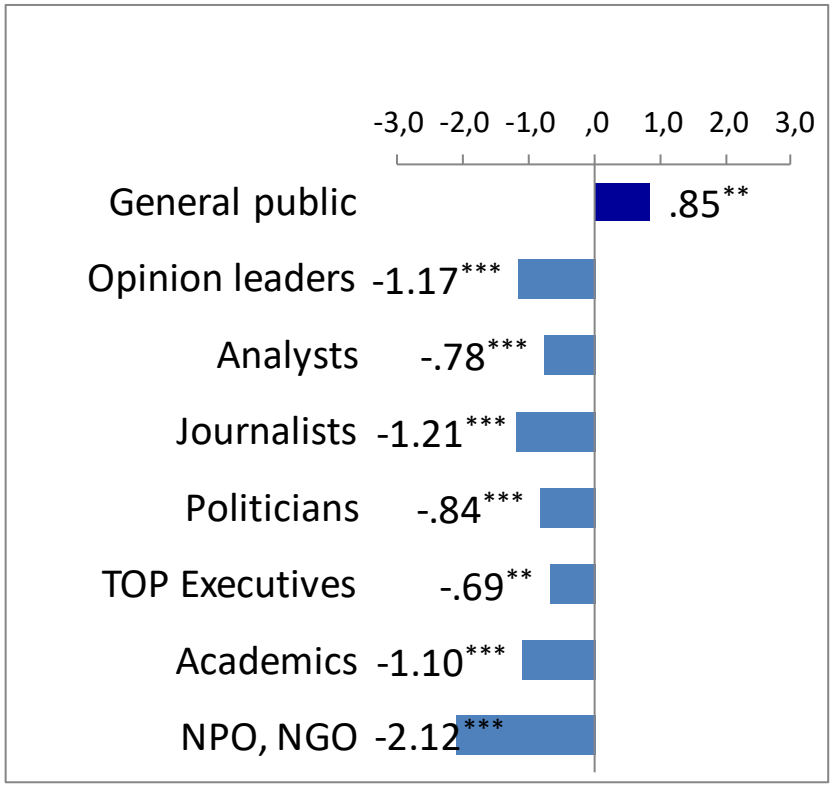


b+w Variation both within and between firms' total reputations
w Variation only within firms' total reputations
b Variation only between firms' total reputations

* and ** denote whether the Sharpe ratio is significantly different from the Sharpe ratio of the DAX portfolio at the .10 and 05 significance levels (for a two-tailed test), respectively, using the test statistic proposed by Jobson and Korkie (1981)

“Wisdom” of the crowd…

The higher the coefficient, the better is the predictive power concerning monthly abnormal stock returns



* significance at the 10%-level ** significance at the 5%-level *** significance at the 1%-level

2. Reputation and Cost of Capital

References

Pfister, B.; Schwaiger, M.; Morath, T. (2019): Corporate Reputation and the Future Cost of Equity, in: Business Research, https://doi.org/10.1007/s40685-019-0092-8

Pfister B. (2013): Assessing the Impact of Corporate Reputation on Firms' Cost of Debt. An Empirical Study of German DAX30 Companies. Working Paper.

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Reputation negatively influences the cost of debt

	Industry-adjusted Cost of Debt$_t$
Reputation$_{t-2}$	**-.104****
Cost of Debt$_{t-2}$	.635***
Log Total Assets$_{t-2}$	-.214*
Log Market-to-Book Ratio$_{t-2}$	-.086
Leverage$_{t-2}$	-.071
Stock Return Volatility$_{t-2}$	.020
Time-fixed effects	Yes
F-Statistic	33.28***
Adjusted R^2	.7187
Observations	140

** p < .10, ** p < .05, *** p < .01*
Coefficients are based on standardized variables. Robust standard errors (clustered on industry level) are given in parentheses.
t indicates the month in which the cost of debt is calculated.

- A good reputation also lowers a firm's future cost of debt (relative to its industry peers).
- Due to the long-term nature of the dependent variable and to overcome the issue of serial correlation, the **previous year's cost of debt is included** in this model.

Estimating the cost of equity

Estimate	Source	Model	Assumptions
r_{CT}	Claus and Thomas (2001)	$P_0 = bvps_0 + \sum_{t=1}^{5} \frac{RI_t}{(1+r_{CT})^t} + TV_5$	▪ Firm value = sum of present book value and discounted future residual income ▪ Constant economy-wide long-term earnings growth ▪ Clean-surplus relation
r_{DGK}	Daske et al. (2006) based on Gebhardt et al. (2001)	$P_0 = bvps_0 + \sum_{t=1}^{12} \frac{RI_t}{(1+r_{CT})^t} + TV_{12}$	▪ Firm value = sum of present book value and discounted future residual income ▪ Constant industry-specific long-term earnings growth ▪ Clean-surplus relation
r_{OJN}	Gode and Mohanram (2003), based on Ohlson and Juettner-Nauroth (2005)	$r_{OJN} = A + \sqrt{A^2 + \frac{eps_1}{P_0} \times [stg - (\gamma - 1)]}$ $A = \frac{1}{2}\left(\gamma - 1 + \frac{dps_1}{P_0}\right)$	▪ Constant economy-wide long-term earnings growth ▪ Not reliant on clean-surplus relation
r_{MPEG}	Easton (2004)	$r_{MPEG} = \sqrt{\frac{eps_2 + r_{MPEG} dps_1 - eps_1}{P_0}}$	▪ Zero long-term earnings growth ▪ Not reliant on clean-surplus relation
r_{mean}	**e.g. Hail and Leuz (2009), Dhaliwal et al. (2011)**	**Arithmetic mean of r_{CT}, r_{DGK}, r_{OJN} and r_{MPEG}**	▪ **Reduces measurement error and noise** ▪ **Balances out model-specific strengths and weaknesses**

P = stock price; bvps = book value per share; RI = residual income; TV = terminal value; eps = median earnings per share forecast; dps = median dividend per share forecast; stg = short-term earnings growth rate ; (γ-1) = long-term economic growth rate

Reputation negatively influences (industry adjusted) cost of equity

	Industry-adjusted Cost of Equity$_t$	
Reputation$_{t-1}$	**-.219*** **	
Non-financial Reputation$_{t-1}$		**-.140*** **
Log Market Value$_t$	-.492**	-.554**
Log Market-to-Book Ratio$_t$	-.247**	-.252*
Leverage$_t$	-.021	.003
Market Beta$_t$	.038	.053
Long-term Growth$_t$	.151***	.147***
Information Asymmetry$_t$	.066	.072
Adjusted R^2	.691	.694
Firm-Half Year Observations	314	314

**** p < 0.01, ** p < 0.05, * p < 0.1. Standardized coefficients are displayed. Standard errors are clustered by firm. Firm dummies are included in all models. t indicates the month of the cost of equity estimation.*

- The effect of reputation takes about six months to kick in.
- The impact of reputation persists when only its non-financial (i.e., halo-removed) part is analyzed.

Managing reputation is favorable

Resuming

- Corresponding to Porter‘s five forces, companies increase loyalty, build barriers and strengthen their strategic position in their competitive environment by fostering their reputation.
- Building up reputation leads to an increased shareholder value.
- Reputation strengthens the company’s immune system → crisis prevention!

3. How to Manage Reputation

The importance of corporate reputation

"We can afford to lose money – even a lot of money. But we can't afford to lose reputation – even a shred of reputation. We must continue to measure every act against not only what is legal but also what we would be happy to have written about on the front page of a national newspaper […] by an unfriendly but intelligent reporter."

(Warren Buffett, 2014)

"Now more than ever, it will be action – not spin – that builds strong reputations. Organizations need to enhance their listening skills so that they are sufficiently aware of emerging issues; to reinvigorate their understanding of, and relationships with, critical stakeholders; and to go beyond traditional PR by activating a network of supporters who can influence key constituencies."

(McKinsey Quarterly, 2009)