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Notions of earnings quality and their interaction with disclosure

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Does accounting *generally* matter to the capital markets?

- Yes, accounting matters. Announcements or disclosures of accounting information systematically influence the capital markets:
  - Firm-initiated disclosures; analyst-initiated disclosures; other disclosures (regulatory, third-party, etc.)
  - ⇨ Implication: Accounting information is attended to by market participants.

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- But, not all accounting disclosures matter equally. Investors place less weight on less credible (more noisy) signals:
  - Imhoff and Lobo 1992 (analyst forecast dispersion), Teoh and Wong 1993 (auditor credibility), Francis, LaFond, Olsson and Schipper 2007 (accruals quality)

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  ⇨ Implication: Investors respond more intensely to higher quality signals.
- And, "information quality/risk" appears to be linked to various market characteristics:
  - Leuz and Verrecchia 2000 (commitment to disclosure and information asymmetry), Francis, LaFond, Olsson and Schipper 2004 (earnings attributes and cost of capital), Rajgopal and Venkatachalam 2010 (accruals quality and idiosyncratic returns volatility), Bhattacharya, Desai and Venkatamaran 2012 (accruals quality and bid-ask spreads)

  ⇨ Implication: Higher quality accounting information is linked to lower costs of capital, lower information asymmetry, and lower returns volatility.

Does earnings quality *specifically* matter and if so, how?

- *Does* earnings quality matter?
  - Does the market price earnings quality (is it a determinant of cost of capital)?
  - Does the market "misprice" when earnings quality is poor?
  - Do investors distinguish between earnings quality that derives from innate sources (the firm's business model and its operating environment) and earnings quality that derives from management's financial reporting decisions?
- *How* does earnings quality matter?
  - Why would managers make financial reporting decisions that result in poor quality?
  - Do firms with innately poor accounting quality select stronger governance structures, and do these structures motivate financial reporting decisions that result in better quality?
  - Are voluntary disclosures and earnings quality substitutes or complements? Does it depend on the *type* of earnings quality?

Do people distinguish between innate and discretionary earnings quality?

- Preparers / practitioners?
  - Yes:
    - CFOs say ~50% of earnings quality driven by innate factors.
    - 20% of firms manage earnings to misrepresent economic performance in any given year.

Dichev, Graham, Harvey and Rajgopal 2013; CFO Survey

- Researchers?
  - Conceptually, yes.
  - In the actual research design - it varies.

Typical earnings quality measures in the research literature

Accounting-based measures

- **Abnormal Accruals**
- **Accruals Quality**
- **Earnings Persistence**
- **Earnings Predictability**
- **Earnings Smoothness**

Presume the function of earnings is informative allocations of cash receipts and disbursements across reporting periods.

Market-based measures

- **Value relevance of earnings**
- **Timeliness of earnings**
- **Conservatism**

Presume the function of earnings is to reflect the information in stock price changes.

Observation 1: Typical earnings quality measures are likely to contain both elements of the business model / operating environment (an innate component) and elements of managerial choice (a discretionary component).

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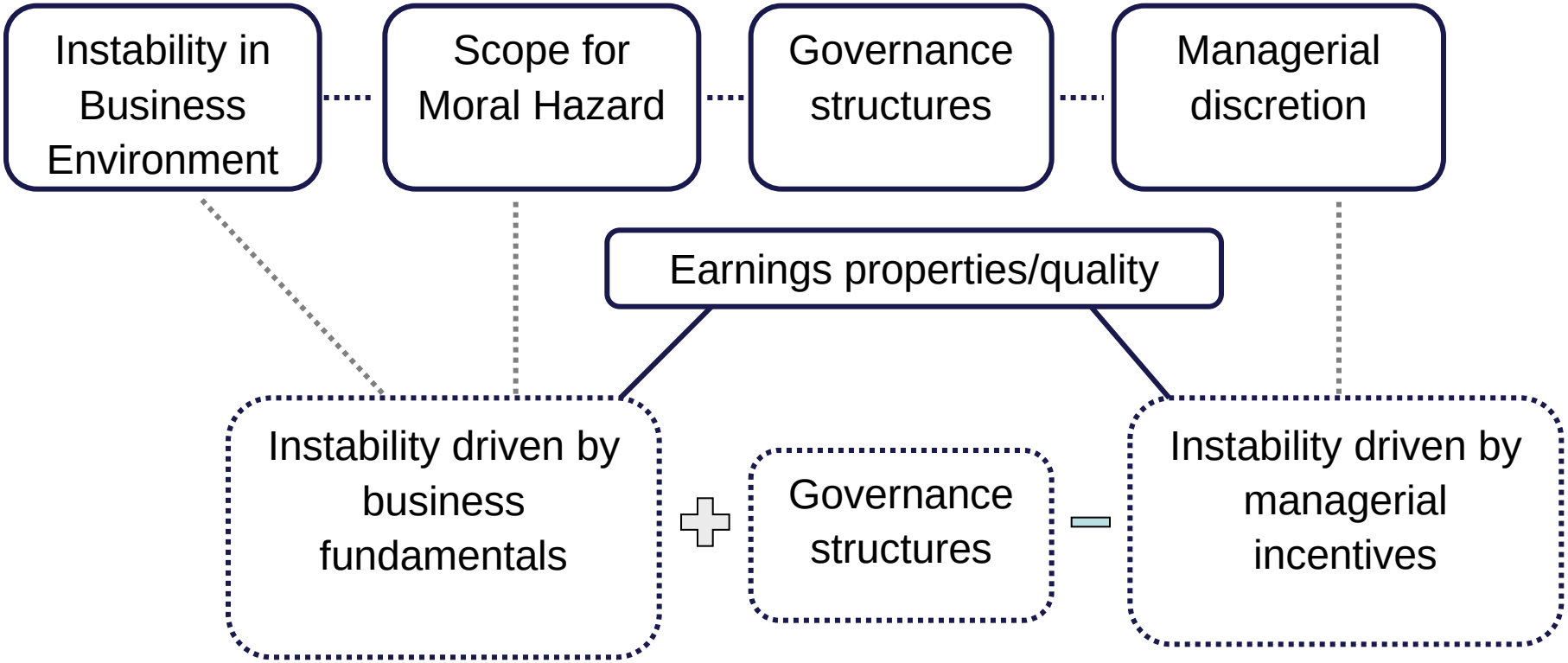
Observation 2: There are research settings when the predictions about the role of earnings quality are fundamentally different depending on whether it is largely innate or largely discretionary. Examples: (i) corporate governance; (ii) voluntary disclosure.

Example 1: Corporate governance

Jensen and Meckling (1976), Demsetz and Lehn (1985), Himmelberg, Hubbard and Palia (1999)…



Example 1: Corporate governance (Athanasakou and Olsson 2013)

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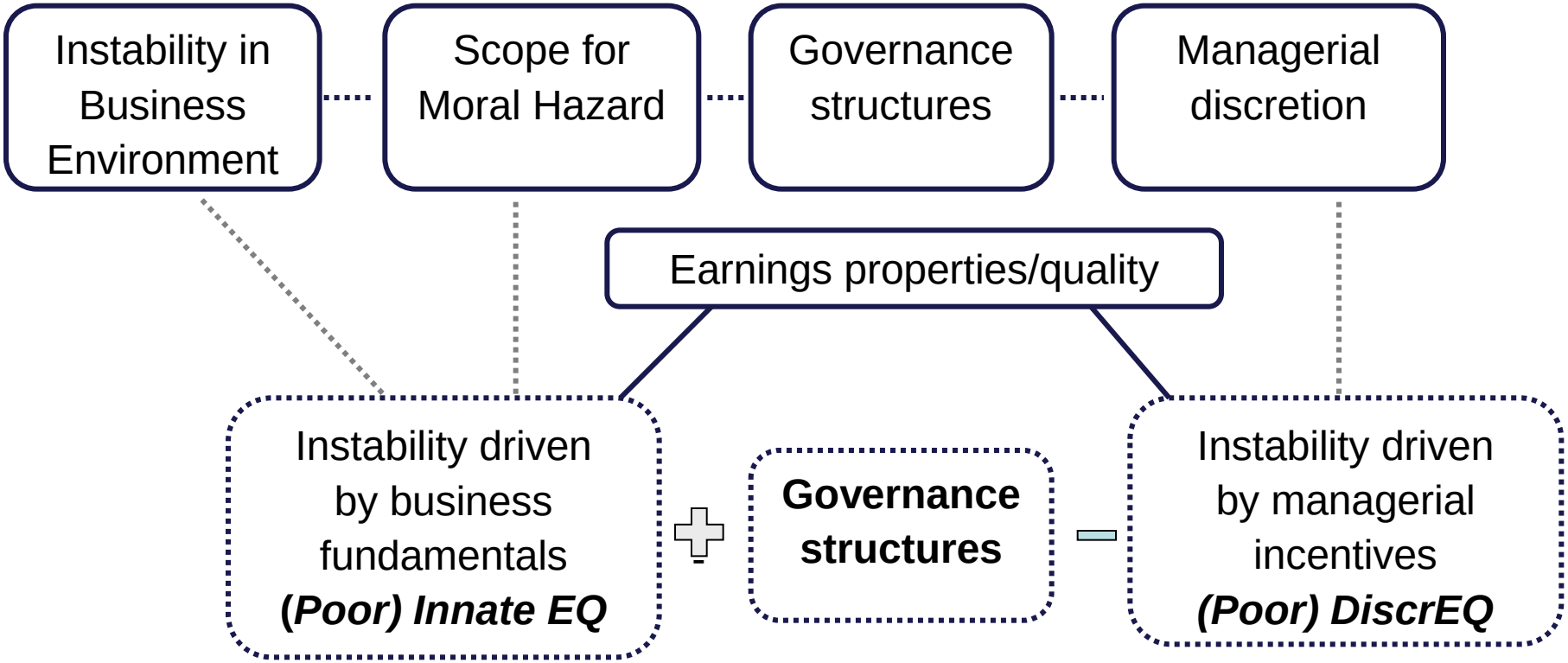


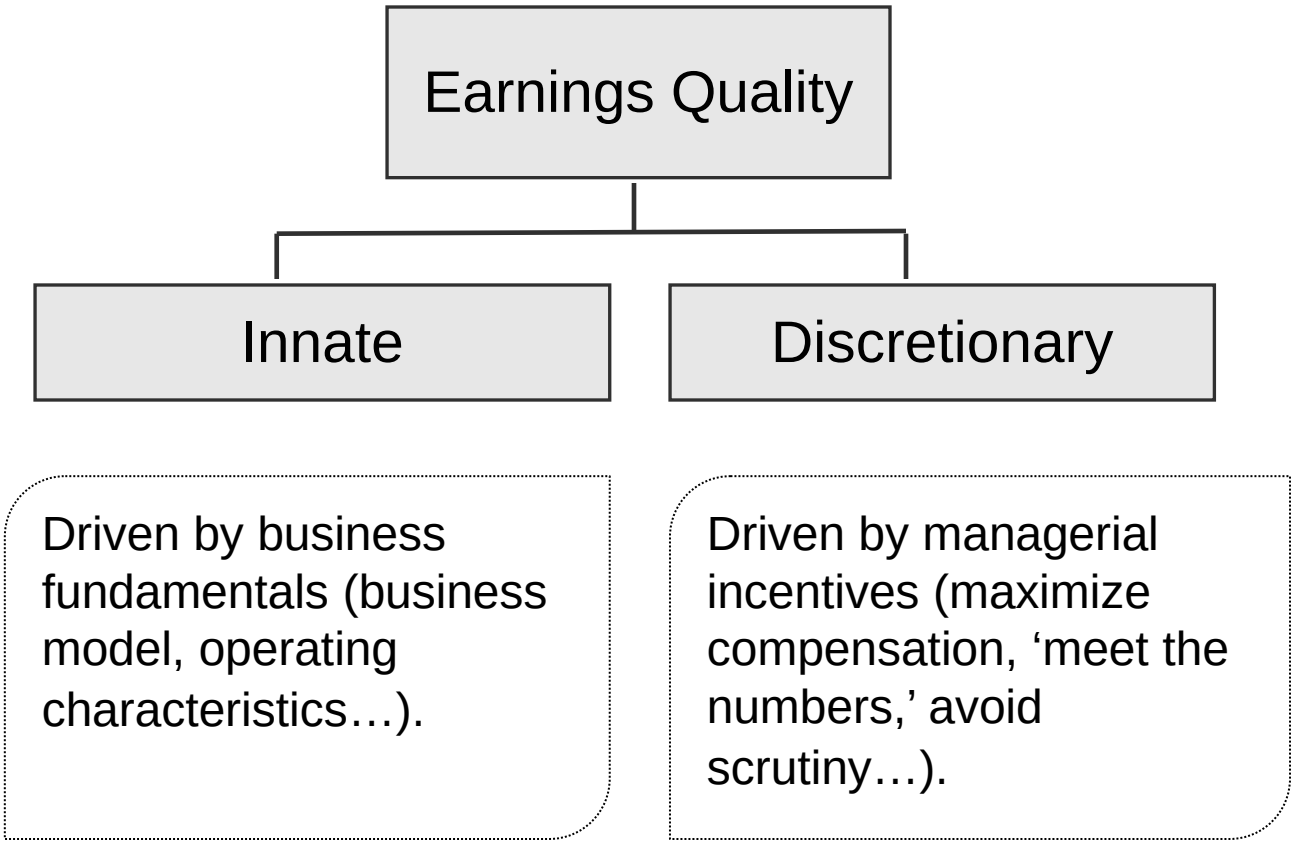
Expectations:

Innate Earnings Quality **–** Corporate Governance Mechanisms **+** Discretionary Earnings Quality

Results in prior literature

- ρ (Earnings Quality, Corporate Governance)?
  - "The empirical research examining the association between typical measures of corporate governance and various accounting and economic outcomes has not produced a consistent set of results" *(Larcker, Richardson and Tuna 2007).*
  - Differences between studies:
    - Governance measures
    - Earnings Quality (EQ) measures
    - (mostly implicit) Perspective behind design

Earnings Quality



Earnings Quality

Earnings quality: firm fundamentals or managerial discretion?

Common approach in research:

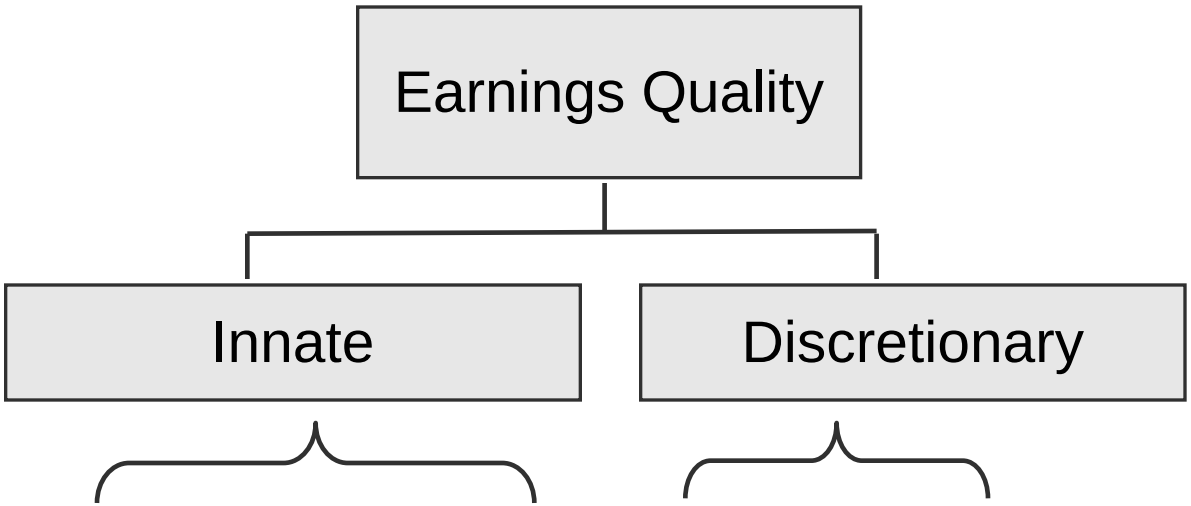
Managerial discretion

$$EQ \text{ or } Accruals_{it} = a + \sum_{\beta_i=1}^{n} \beta_i * Fundamentals_{it} + e_{it}$$

Issues:

a. If set of fundamentals is insufficient.
b. If managerial incentives are correlated with fundamentals.
c. Noise.

Research Design



$$EQ_{it} = a + \sum_{\beta_j=1}^{k} \beta_j * Fundamentals_{it} + \sum_{\beta_j=k+1}^{n} \gamma_j * Incentives_{it} + e_{it}$$

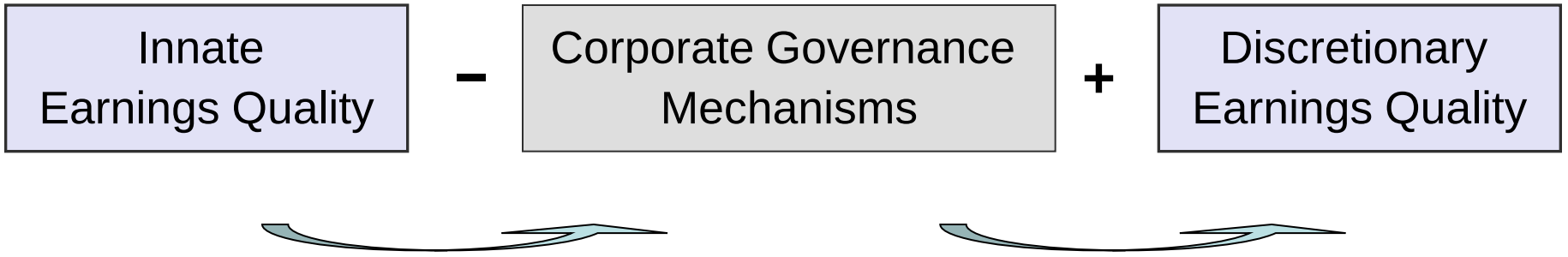
$$InnateEQ_{it} = \sum_{\hat{\beta}_j=1}^{k} \hat{\beta}_j * Fundamentals_{it}$$

$$DiscEQ_{it} = \sum_{\hat{\gamma}_j=k+1}^{n} \hat{\gamma}_j * Incentives_{it}$$

Model of Earnings Quality

Innate factors		Firm size Cash flow variability Sales variability Operating cash cycle Incidence of losses Intangible intensity Capital intensity	*Dechow and Dichev (2002) Francis,Lafond, Olsson and Schipper (2005)*
Managerial Incentives	Contractual arrangements	Executive compensation Debt covenants	
	Asset pricing considerations	Corporate financing events Equity offerings Shares for shares acquisitions Debt Issues Earnings benchmarks Meeting analyst forecasts Reporting earnings increases Reporting profits Firm characteristics Firm listing age Growth Negative prior market returns	*Fields, Lys and Vincent (2001)* *(Modigliani and Miller 1958, Watts and Zimmerman 1986, Holt-hausen and Leftwich 1983, Black 1980, Fama 1980, Ronen and Sadan 1975, …)*
	Influencing third parties	Tax considerations Political costs Competition Public visibility	

Results



- There is no “one” relation between earnings quality and corporate governance.
- How one specifies Discretionary/Innate earnings quality matters.

Example 2: Innate / Discretionary Earnings Quality and Voluntary Disclosure

"We are not aware of studies about a firm's earnings-related accounting choices when the anticipated impact of the choice on earnings properties is limited because the property is primarily driven by the firm's fundamental performance.

For example, if a firm cannot produce a persistent earnings number given the nature of operations, does it bother to make choices to produce the most persistent number possible? Or, does the firm give up on producing a persistent earnings stream and instead optimize over accounting choices that achieve another goal? Does the firm substitute for fundamentally low persistence earnings with additional disclosure, along the lines examined in Francis, Nanda, and Olsson (2008)?"

Dechow, Ge and Schrand 2010

Voluntary Disclosure, Earnings Quality and Cost of Capital
(Francis, Nanda and Olsson (2008)

- Voluntary disclosure research
  - Prior studies (e.g., Botosan 1997) document a negative association between voluntary disclosure and costs of capital, suggesting that firms can reduce their cost of capital by being more forthcoming in their disclosure policies/practices.
  - Questions: What is the empirical association between earnings quality and voluntary disclosure?
  - Does the earnings quality explain the association between voluntary disclosure and cost of capital ?

Earnings Quality and Voluntary Disclosure?

- By earnings quality we mean the precision of the signals produced by the firm's information system(s), particularly as they relate to financial signals (such as earnings).
- Early analytical studies show that if information quality is low:
  - Information asymmetry is high -- greater demand for disclosure.
  - Information quality and disclosure are *substitutes.*
- But, information quality also affects the quality of voluntary disclosure (Verrecchia [1990]; also Dye [1985] and Jung and Kwon [1988])
  - Buyers are less likely to consider disclosures from "low quality" firms as credible. Buyers will treat non-disclosure from "high quality" firms as evidence of worse news.
  - Information quality and disclosure are *complements.*

Research questions

- How do earnings quality and voluntary disclosure affect the cost of capital?
  - If disclosure is a response to information asymmetry, firms that disclose more may have a lower cost of capital. (H2)
    - But: Good earnings quality may be associated with more disclosure (H1)
    - But: Good earnings quality can also be also associated with a lower cost of capital
  - Prior empirical results of a lower cost of capital for more forthcoming firms may be due to these firms (also) having better earnings quality.

Question: Does a correlated omitted variable (earnings quality) explain the finding that more forthcoming firms have lower costs of capital? (H3)

Proxy for voluntary disclosure

Voluntary Disclosure

- Firm disclosures in 10K's and annual reports
- 677 publicly traded firms in 2001, all followed by Value Line
- 24 coded items in 4 categories
  - I. Historical results (ROA, AT, ROE, corporate strategy, etc.)
  - II. Other financial measures (RI, FCF, COC, etc.)
  - III. Non-financial measures (employees, market share, etc.)
  - IV. Projected information (market share, cash flow, sales, profit)
- Coding scheme:
  - Binary variables: 0/1
  - Continuous variables: 0 (below median) / 1 (above median)
- Converted to percentage by dividing by sample maximum

Proxies for earnings quality

Four measures: Accruals Quality, Absolute Abnormal Accruals ("Modified Jones"), Earnings Variability and a common factor based on the three.

	CF(InfoQual)	*AQ*	*EarnVar*	*AbsAA*
CF(InfoQual)	1.0000	0.9114	0.8009	0.8356
		<.0001	*<.0001*	*<.0001*
AQ	0.8980	1.0000	0.6300	0.6270
	<.0001		*<.0001*	*<.0001*
EarnVar	0.8184	0.7684	1.0000	0.5072
	<.0001	*<.0001*		*<.0001*
AbsAA	0.8645	0.6232	0.5350	1.0000
	<.0001	*<.0001*	*<.0001*	

Proxy for cost of capital

Cost of Equity Capital (*CofE*)

The implied cost of equity derived from Value Line data on analysts' 4-year out price targets:

$$(1+CofE)^4 = \frac{TP}{P} + \frac{DIV\left[\dfrac{(1+CofE)^4-(1+g)^4}{CofE-g}\right]}{P}$$

Realized returns tests

Measures the realized portfolio returns (in the following year) for Disclosure and IQ portfolios.

Tests of H1

Variable	Base Model	Regressions based on raw values				*Decile rank of*
		CF (*InfoQual*)	AQ	EarnVar	AbsAA	*CF* (*InfoQual*)
InfoQual	--	-0.0645	-1.0897	-0.3496	-0.9041	-0.0120
t-stat.	--	-3.33	-2.19	-2.73	-3.61	-4.50
lnMVE	0.0180	0.0099	0.0141	0.0134	0.0097	0.0027
t-stat.	2.94	1.51	2.19	2.12	1.50	0.39
lnBM	0.0228	0.0116	0.0172	0.0135	0.0133	0.0053
t-stat.	2.30	1.12	1.67	1.30	1.30	0.51
NAnalyst	-0.0016	-0.0006	-0.0012	-0.0010	-0.0004	0.0005
t-stat.	-1.36	-0.49	-1.02	-0.83	-0.38	0.43
ROA	0.0577	0.0392	0.0526	0.0310	0.0460	0.0516
t-stat.	0.59	0.40	0.54	0.32	0.47	0.53
Issue	-0.0240	-0.0051	-0.0098	-0.0180	-0.0097	-0.0073
t-stat.	-0.31	-0.07	-0.13	-0.24	-0.13	-0.10
NSegments	0.0072	0.0070	0.0066	0.0066	0.0074	0.0078
t-stat.	1.54	1.49	1.40	1.41	1.59	1.66
Adj. R^2	0.0172	0.0319	0.0228	0.0288	0.0346	0.0434

Result: Firms with *better* information quality (smaller values of EQ measures) have *more* voluntary disclosures than firms with poorer information quality. (H1)

Tests of H2 and H3

	Excluding Other Risk Factors			Including Other Risk Factors		
Variable	*VolDisc*	*CF* (*InfoQual*)	Both	*VolDisc*	*CF* (*InfoQual*)	Both
VolDisc	-0.0022	--	-0.0006	-0.0002	--	0.0001
t-stat.	-2.58	--	-0.72	-0.23	--	0.15
CF (*InfoQual*)	--	0.0074	0.0073	--	0.0048	0.0048
t-stat.	--	8.65	8.27	--	4.65	4.64
Beta	--	--	--	0.0489	0.0370	0.0371
t-stat.	--	--	--	11.18	7.49	7.44
lnMVE	--	--	--	-0.0036	-0.0003	-0.0003
t-stat.	--	--	--	-2.07	-0.17	-0.18
lnBM	--	--	--	0.0156	0.0203	0.0202
t-stat.	--	--	--	4.39	5.65	5.63
Adj. R^2	0.0099	0.1007	0.0987	0.1903	0.2157	0.2145

Result: Firms with more disclosure have lower *CofE*. (H2)

Result: Controlling for earnings quality, this result goes away. (H3)

Result: Controlling for other risk factors, this result goes away.

What about innate vs. discretionary earnings quality?

- Using measures of Innate EQ sharpens the results (consistent with the underlying perspective on EQ).

- No significant association between Discretionary EQ and *VolDisc* or cost of capital.
  - Empirical caveat: the measure of Discretionary EQ is orthogonal to fundamentals (so potentially low-powered).
  - Discretionary EQ is itself a form of disclosure (but different because not voluntary per se). Expectation?

Do common vol disclosure measures have similar properties?

TABLE 8

Tests of Management Forecasts, Press Releases, and Conference Calls

Panel A: Pairwise correlations between *VolDisc*, *MFS*, *PR*, and *CF(EarnQual)*[a]

	VolDisc	*log(1+MFS)*	*log(1+PR)*	*log(1+NCalls)*	*CF(EarnQual)*
VolDisc	1.0000	0.0562	0.0002	0.0673	−0.1811
		0.1442	0.9968	0.0803	<0.0001
log(1+*MFS*)	0.0785	1.0000	0.1826	0.3002	−0.0157
	0.0412		<0.0001	<0.0001	0.6835
log(1+*PR*)	0.0314	0.1854	1.0000	0.4194	0.0718
	0.4142	<0.0001		<0.0001	0.0619
log(1+*NCalls*)	0.0354	0.2582	0.4456	1.0000	0.1022
	0.3584	<0.0001	<0.0001		0.0078
CF(EarnQual)	−0.2270	−0.0215	0.0183	0.1102	1.0000
	<0.0001	0.5759	0.6348	0.0041	

- **No!**
- **Associations with cost of capital are also not consistent across voluntary disclosure measures.**

Some concluding comments

- *Earnings quality* (EQ) is not a single construct.
- Common measures of EQ contain both innate and discretionary components.
- Research hypotheses often presume EQ to be largely discretionary or largely innate. And, the expected effect/association can be very different.
  → Mismatch between empirical measure and conceptual construct?

- *Voluntary disclosure* is not a single construct.
- Accepted measures of vol. disc. have different properties (especially EQ associations).
- One has to be careful to make statements about voluntary disclosure in general based on any single empirical measure of disclosure and its properties.