Earnings Quality

CARE Conference

April 8, 2006

Definition of Earnings Quality

What we say:

"There is no agreed upon definition of earnings quality…"

Lev (1989) "R^2s-are-low"

"No serious attempt is being made to question the quality of the reported earnings numbers prior to correlating them with returns."

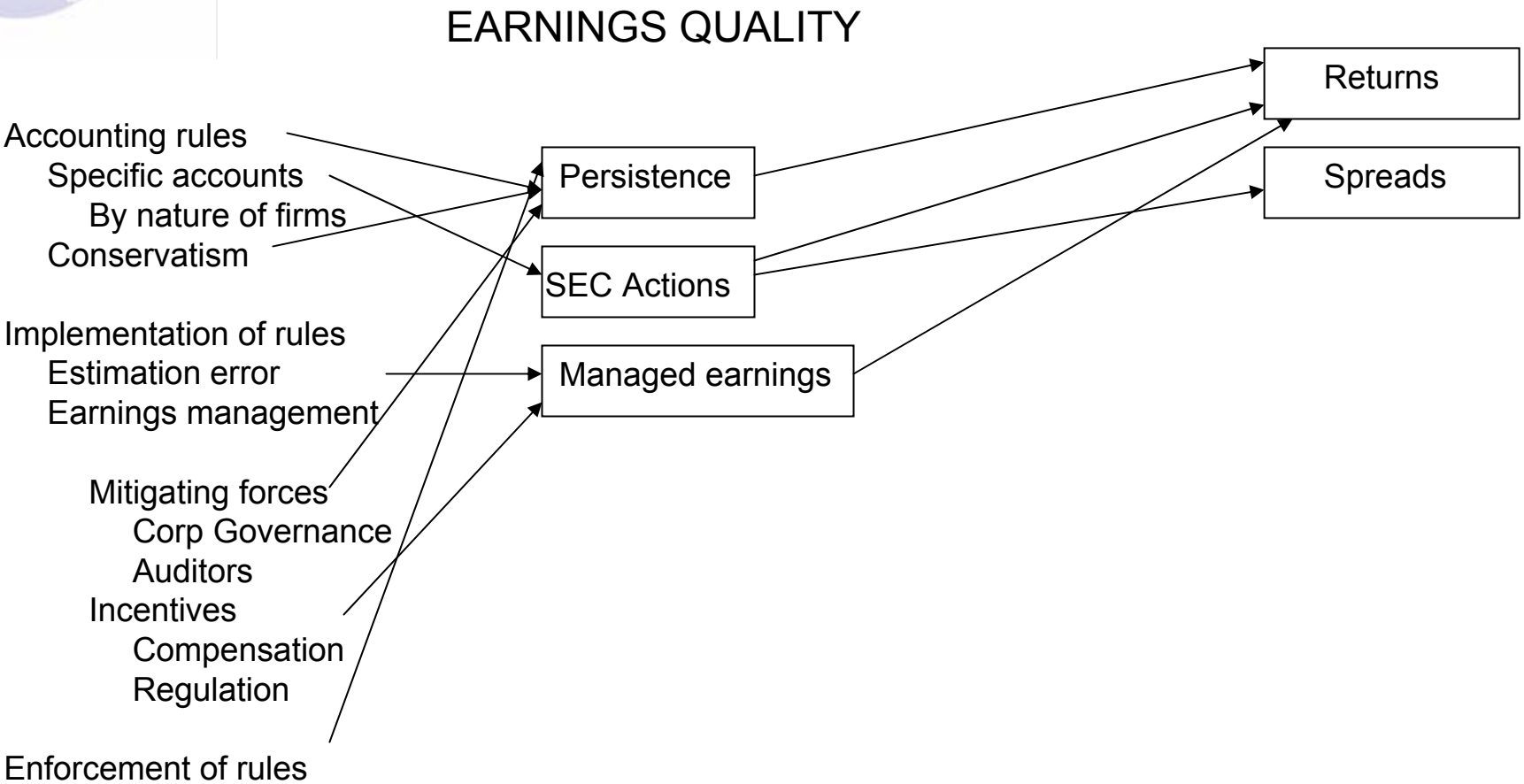
What we mean:

"Earnings quality is unobservable."

Chronbach and Meehl's Nomological Network

- Early history
  - Network will be limited, few connections
  - Little or no theory in the usual sense need be involved
- As research proceeds
  - Sends out roots in many directions
  - Attaches to more and more facts or other constructs

Chronbach and Meehl's Nomological Net



Conclusions about EQ research

Based on Cronbach and Meehl's "philosophical" approach to construct validity:

- We are following the "right" paths to establish the net
  - Too much of some types of research
  - Too little of others
- We have not "aggregated" the connections to establish construct validity

Methods to evaluate construct validity

- Multiple proxies/indicators/traits
- Measured by different types of tests
- Statistically establish:
  - Convergent validity
  - Discriminant validity
  - Example: Multi-trait multimethod matrix (MTMM)
    Campbell and Fiske, 1959
- Methodological studies (of this type) are virtually non-existent
  - Ecker, Francis, Kim, Olsson, and Schipper (*Forthcoming*, TAR, 2006)
  - Wysocki (2006)

Is this really bad?

- Yes, if you believe other business disciplines
  - The “satisfaction” problem in marketing
  - The “strategy” problem in OB
  - The “user involvement” problem in MIS

  - “A paradigm for developing better measures of marketing constructs” (1979)
  - “Validating instruments in MIS research” (1989)
  - “Construct measurement in organizational strategy research: A critique and proposal” (1986)

- Yes, because the construct is part of the scientific research cycle

“Besides bringing more rigor in general to the scientific endeavor, greater attention to instrumentation promotes cooperative research efforts … in permitting confirmatory, follow-up research to utilize a tested instrument.”

Straub, 1989

Is this really bad?

Yes, if we want an EQ “score”

“Strategy is the key concept underlying the new direction of the strategic management field… In particular, a definition is needed that will lend itself to measurement, comparison among firms, and which can be related to goals and objectives as well as to performance results. Above all, careless, imprecise use of this term should be avoided.”

Schendel and Hofer, 1979

“More stupefying than the sheer number of our measures is the ease with which they are proposed and the uncritical manner in which they are accepted. In point of fact, most of our measures are only measures because someone *says* that they are, not because they have been shown to satisfy standard measurement criteria (validity, reliability, and sensitivity).”

Jacoby, 1978

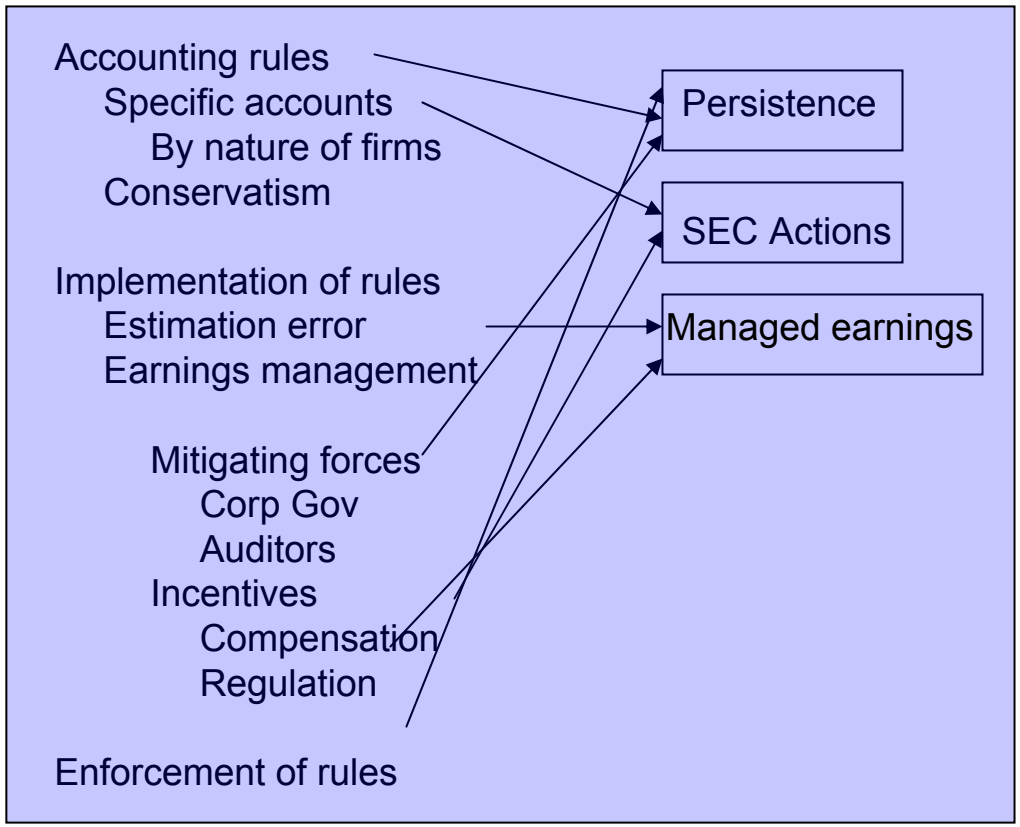
"Valid measurement is the *sine qua non* of science. In a general sense, validity refers to the degree to which instruments truly measure the constructs which they are intended to measure. If the measures used in a discipline have not been demonstrated to have a high degree of validity, that discipline is not a science."

Peter, 1979

"Each academic profession can study the development of its own language. Some terms catch on and some don't. A hastily chosen term that helps meet a need gets imitated into the language before anybody notices what an inappropriate term it is. People who recognize that a term is a poor one use it anyway in a hurry to save thinking of a better one, and in collective laziness we let inappropriate terminology into our language by default. Terms that once had accurate meanings become popular, become carelessly used, and cease to communicate with accuracy."

Thomas Schelling, Micromotives and Macrobehavior

The “Determinants-of-Quality” Connections

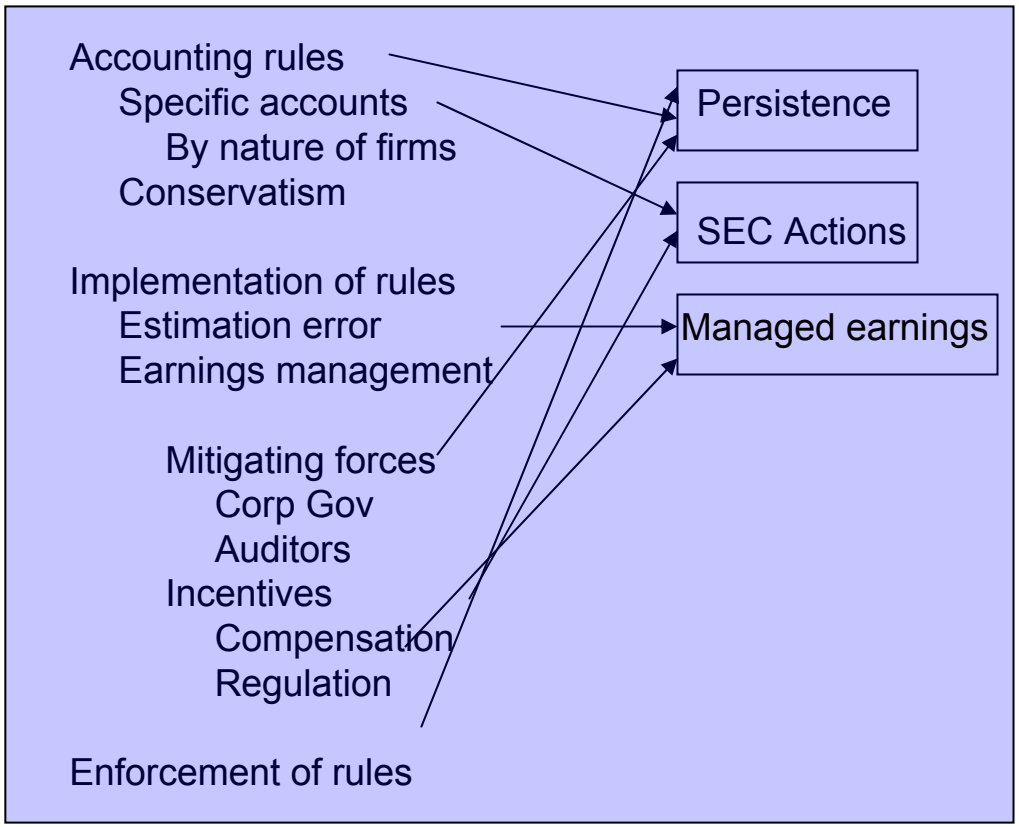


1) Good positive evidence, but negative???

Good positive evidence, but negative evidence?

- Lev and Thiagarajan (1993) and Abarbanell and Bushee (1997)
  - Both find "negative" evidence with respect to A/R
    - Insignificant relation between doubtful receivables and contemporaneous returns
    - Unexpected positive relation between A/R signal and Δ future earnings
  - Contextual analysis (e.g., high inflation periods)
  - AB: "While these results support the use, by analysts and investors, of fundamental signals in forecasting earnings, our results do not support the arguments used to motivate a number of signals, raising doubts that their observed associations with security returns are robust and/or entirely based on their ability to predict future earnings."
- Follow-up?
  - No direct examination of this "negative" evidence
  - Basically ignored in accruals studies

The “Determinants-of-Quality” Connections



1) Good positive evidence, but negative???

2) How important is this part of the network?

How important is this part of the network?

"Criterion-based tests are most appropriate when there is consensus about the construct of interest."

Bankruptcy risk:

$$\Pr(Bankruptcy) = f(firm\ characteristics)$$

$$\begin{bmatrix} 0 \\ 1 \end{bmatrix} = \sum_j b_j X_j + \varepsilon$$

1 = "…manufacturers that filed a bankruptcy petition under Chapter X of the National Bankruptcy Act..."

Intelligence:

$$Intelligence = f(person/environment\ characteristics)$$

$$? = \sum_j b_j X_j + \varepsilon$$

1 = ???
- Good vocabulary
- Able to perform arithmetic calculation
- Lots of general information
- Able to express ideas
- Not easily taken in by fallacious arguments
- Able to follow complex directions

Earnings Quality:

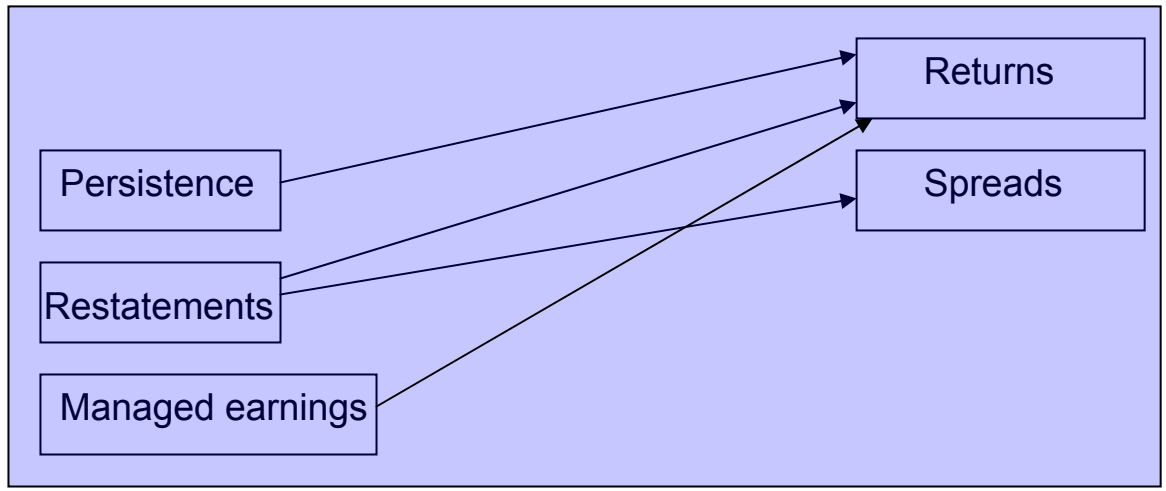
$$Earnings\ \ quality = f(firm/earnings\ characteristics)$$

$$? = \sum_j b_j X_j + \varepsilon$$

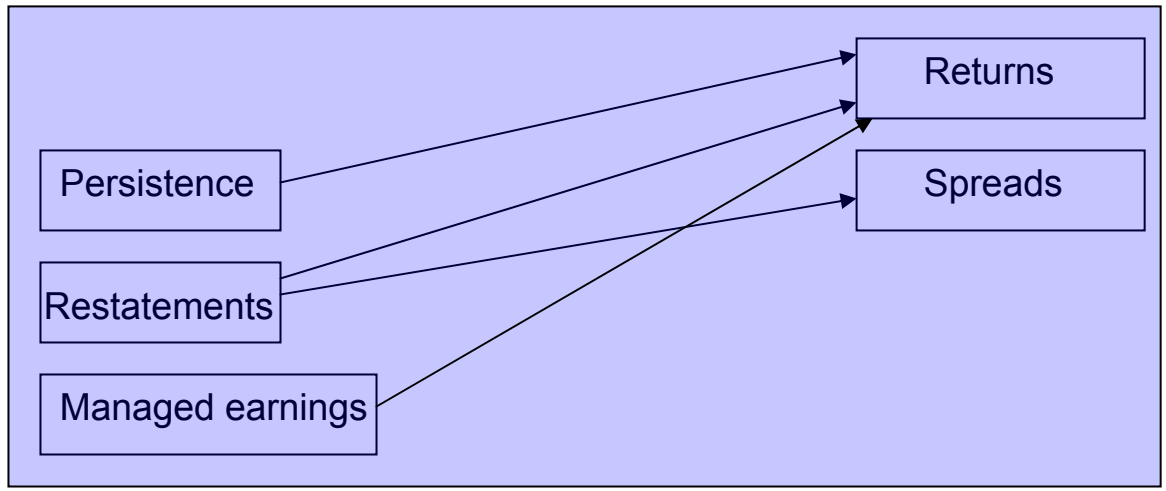
1 = ???

Informative about:
- Amounts, timing, and uncertainty of cash flows
- Economic resources
- Effects of transactions, events, circumstances
- Financial performance

The “Consequences-of-Quality” Connections



The “Consequences-of-Quality” Connections



1) EQ is a link in the chain, not the start

EQ is a link in the chain, not the start

Fundamentals → EQ → Equity-market consequences

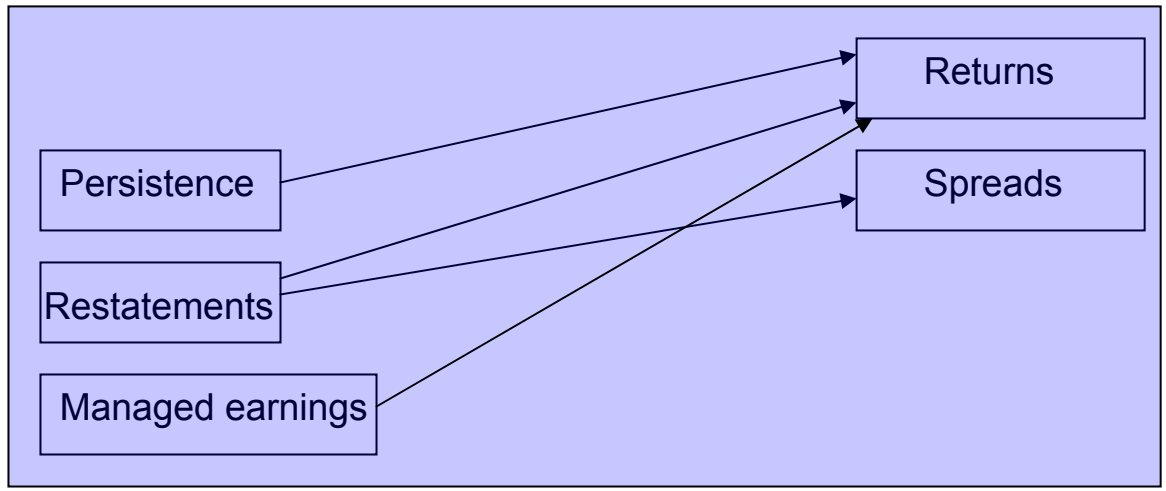
- Separate connections are inadequate
- Some evidence on the "path"
  - Bernard and Stober (1989)
  - Lev and Thiagarajan (1993)
  - Penman and Zhang (1999)
- Didn't get very far – Why?

BS: It may be that

"…security price reactions to the release of cash flow and accrual data are too highly contextual to be modeled parsimoniously,..."

- Point: Whoever does it, it is a necessary element of the net

The “Consequences-of-Quality” Connections



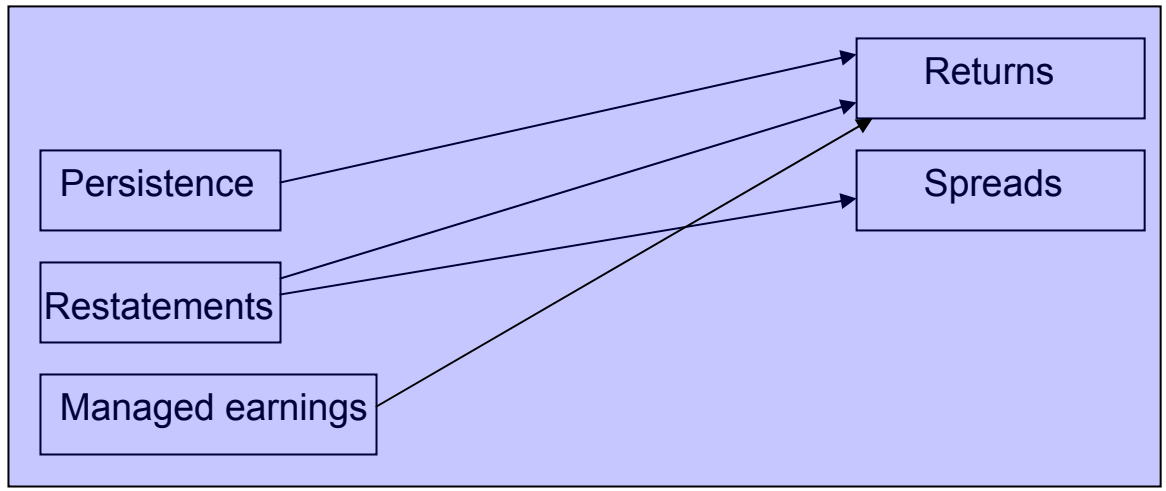
1) EQ is a link in the chain, not the start

2) Concentration on returns

Concentration on returns

- Not enough research on *information risk* associated with low-quality earnings
- Notable (recent) exceptions:
  - Francis, LaFond, Olsson, and Schipper (2005)
  - Ecker, Francis, Kim, Olsson, and Schipper (Forthcoming)
- Can extend with contextual analysis

The “Consequences-of-Quality” Connections



1) EQ is a link in the chain, not the start

2) Concentration on returns

3) Lagging technology

Lagging “technology”

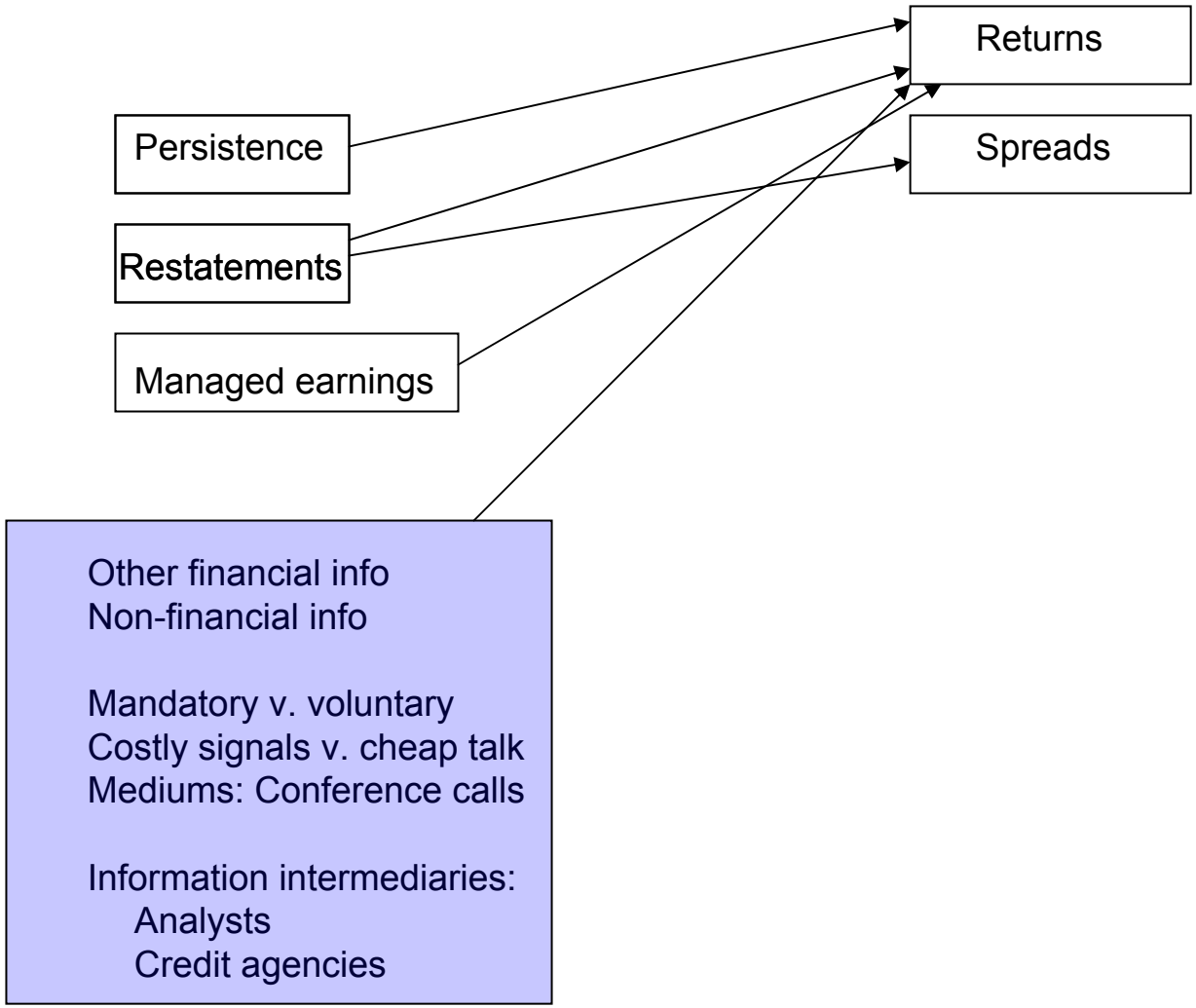
- Asset pricing models (including behavioral)

- Models of trade that yield predictions about how
  - Volume
  - Depth
  - Spreads

  are related to information

- Richer datasets
  - Higher frequency
  - Data other than returns

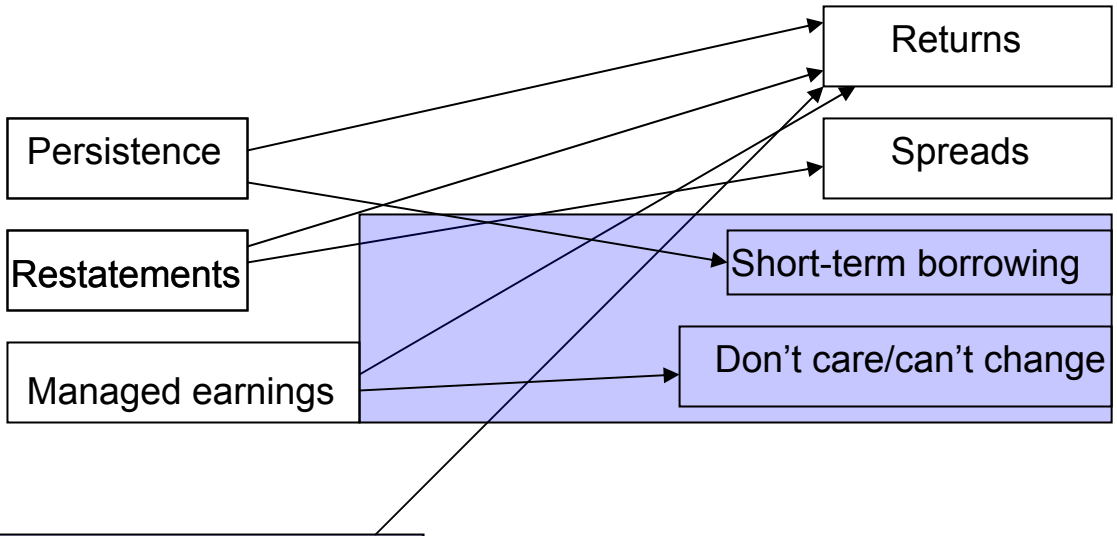
What's missing? Other information



Research on other information

- Not suggesting that we broaden the definition of EQ to be "IQ"
- Other information affects our understanding of *earnings* quality
  - Recognized in theory (e.g., "*v*" in Ohlson)
  - Recognized in empirical studies
- Not enough evidence on substitutes for/complements to earnings quality
  - Analyst forecasts v. earnings
    - Francis, Schipper, and Vincent (2002), Cornell and Landsman (1989)
  - Voluntary disclosure and earnings
    - Francis, Schipper, and Vincent (2002), Lougee and Marquardt (2004)
  - Costly financial signals (dividends or repurchases)
    - Mohanram (1999); Banker, Das, and Datar (1993); Barth and Kasznik (1999)

What's missing? Other consequences



Other financial info
Non-financial info

Mandatory v. voluntary
Costly signals v. cheap talk
Mediums: Conference calls

Information intermediaries:
- Analysts
- Credit agencies

Research on other users

Observed earnings "quality" is the *ex post* outcome of the firm's earnings optimization decision

- Constraint: Report one earnings number
- Objective function:
  - Characteristics of earnings that are "useful" to each user
  - Incentives to meet each user's needs
  - Ability of each user to "reinterpret" reported earnings (or substitute for it)

Christensen, Feltham and Sabac (JAE, 2005)

"Increasing the persistent components and reducing the reversible components are generally desirable for valuation, but not for contracting. Eliminating transitory components of earnings is generally desirable for valuation, but not necessarily for contracting."

Implication for earnings quality research:

EQ* is a noisy (perhaps systematically biased) measure of

the latent construct of interest,

the earnings number that equity holders actually use in their decisions

Summary of research on the latent construct: Earnings Quality

- Progressing on natural paths in early stages
  - Too much:
    - Positive evidence
    - Research on determinants

    (Although still opportunities)
  - Too little:
    - Research on the "path" between fundamentals and returns via earnings
    - Research on consequences
      - Information risk
      - Exploiting new "technology"
    - Research on other information sources
    - Research on other users
- But, we are not in the early stages
  - Rigorous analysis of individual pieces
  - Goal: Develop "construct" validity