ICAS-EFRAG Academic literature review

The use of information by capital providers

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Questions addressed by the review

- Who are the key capital providers in the EU?
- What decisions are capital providers making and what are the information needs for these decisions?
- What information do these capital providers currently use to make financial decisions and assess stewardship?
- How and for what purpose is this information accessed and used?
- What is the 'logic' of models applied?
- How important are financial statements for capital providers' decision making and assessing stewardship?
- How are financial statements used?
- What additional information would capital providers consider to be useful?

Features of the review

- Focus is on capital provision to *Public Interest Entities,* so despite the economic significance of the sector, research on private/unlisted companies is excluded

- Adopts a pan-European perspective and is not confined to English language publications

- Seeks 'direct' evidence relating as closely as possible to capital providers' individual decision-making processes
  - 'Aggregate' evidence is briefly mentioned but receives less weight (e.g. market-based research on value relevance of financial statements and on sell-side analysts' forecasts)

- Covers both empirical and theoretical research

Principal findings from the review

- While direct evidence on the information usage by capital providers is surprisingly sparse, the following main findings seem relevant
  - Heterogeneous users across Europe have heterogeneous demands of information
  - Decision problems with respect to stewardship/contracting questions sometime require different information than valuation-related decisions
  - Accounting is used in combination with many other information sources
  - Behavioral aspects influence the use of information and the role of information intermediaries

“Bold” implications

- It is doubtful whether developing “general purpose financial statements” is a dominant strategy
- Not obvious that financial reporting should be designed to provide a “comprehensive true and fair view” of the reporting entity
- Standards should be developed with the behavioural biases/information processing limitations of users and potential intermediaries in mind

Who are key capital providers in the EU?

- The EU15 balance sheet (Source: ORBIS)
  - Publicly listed industrial firms, with consolidated data from 2011

US Firms (N=3,689) Liabilities and Equity	EU15 Firms (N=3,418) Liabilities and Equity	Difference (p-val)
Current Liabilities (24%)	Current Liabilites (32%)	+8% (<0.01)
Non-Current Liabilities (22%)	Non-Current Liabilities (19%)	-3% (<0.01)
Shareholders' Equity (54%)	Shareholders' Equity (48%)	-6% (<0.01)

Who are key capital providers in the EU?

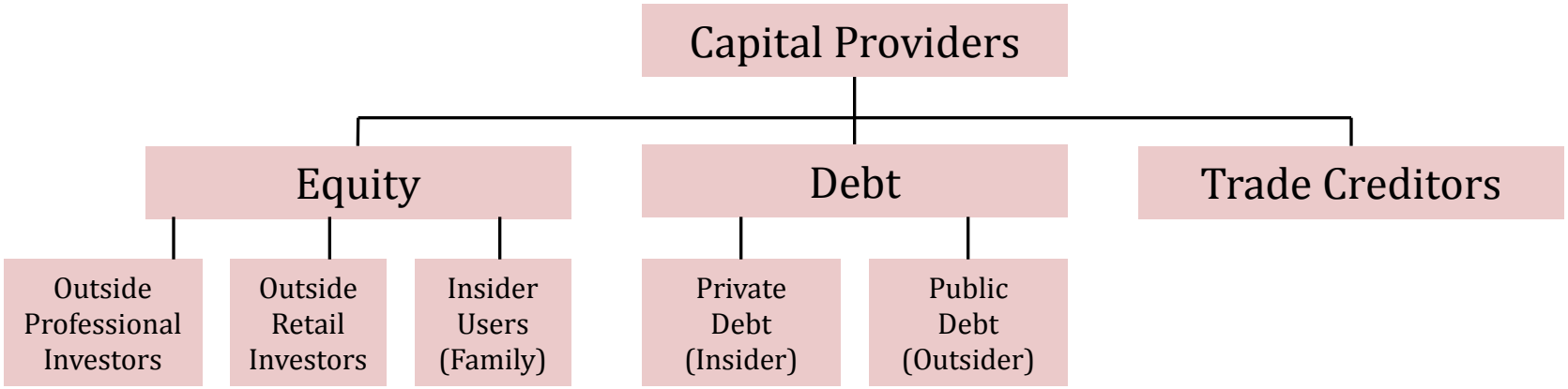
- The EU15 balance sheet (Source: ORBIS)
  - A look at the extremes: What do Portugal and UK have in common?

Portugal (N=33) Liabilities and Equity	UK (N=1,065) Liabilities and Equity	Difference (p-val)
Current Liabilities (40%)	Current Liabilites (27%)	-13% (<0.01)
Non-Current Liabilities (34%)	Non-Current Liabilities (15%)	-19% (<0.01)
Shareholders' Equity (27%)	Shareholders' Equity (57%)	+30% (<0.01)

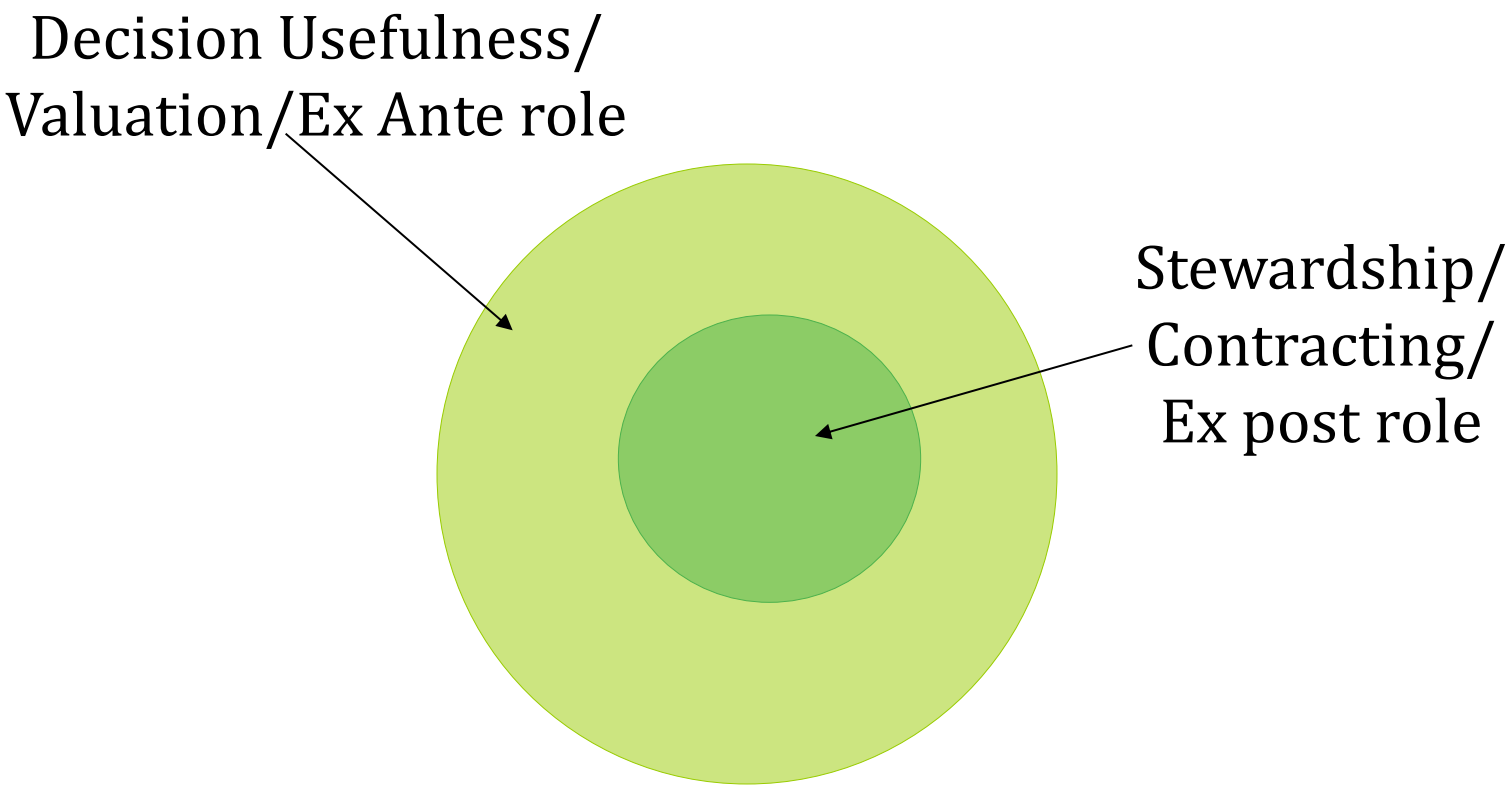
Different users, different uses?

- Debt holders and shareholders demand different information and use it in different ways (Davis et al. 1978, Ball et al. 2008a, Kothari et al. 2010)
    - Debt holders demand more timely accounting *recognition*, for contracting purposes, than shareholders. Debt differs from equity as:
        - » Many post-issuance contractual rights are specified in terms of financial statements alone: other softer sources of information are less valuable
        - » Value of debt claims is more sensitive to decreases in value. Debt contracts treat gains and losses asymmetrically. Covenants are triggered by *decreases* in value, and not by increases
    - Is there a place for conservatism in accounting? If so, what kind?
- Accounting quality and capital structure, which one drives the other?
    - Evidence that accounting drives cost of debt and cost of capital, but also, that firms use equity, public or private debt to finance their operations depending on the quality of their accounting

Organization of the review

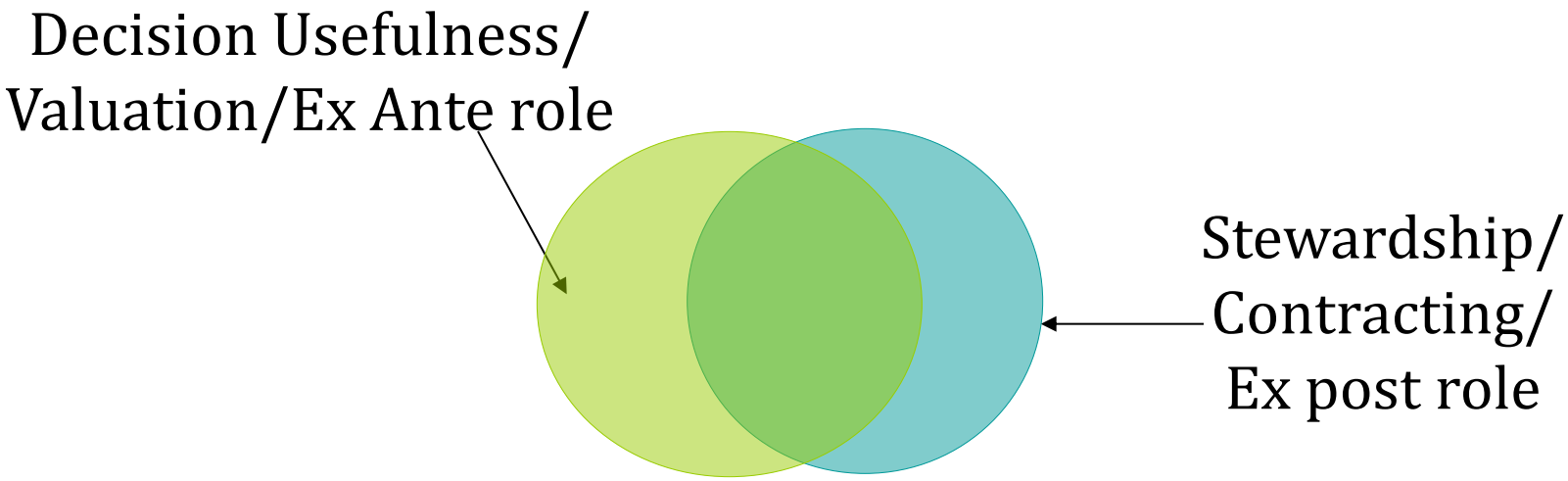


Stewardship objective of accounting: IASB



Stewardship objective of accounting: Literature

- Very little empirical 'direct' evidence on the stewardship role of accounting (O'Connell, 2007)
- Research is a) theoretical (agency models) or b) focused on compensation



Disagreements on *size of sets/extent of the intersection/definition of terms*
Consensus that 'Stewardship' is not a sub-set of 'Decision Usefulness' (e.g. Gjesdal, 1981; Bushman et al., 2006; Chen et al., 2010; Beyer et al, 2010; Kothari et al., 2010; Lambert, 2010)

Stewardship objective of accounting: Literature

- Lambert (2010): 'Valuation: use info for *estimating* future cash flows but stewardship use it to *affect* future cash flows'
- Stewardship and valuation are not independent roles (Lambert, 2010; Banker et al., 2009; Barker, 1998; Roberts et al., 2006)
- Beyer et al. (2010) 'The Financial Reporting Environment: Review of the Recent Literature'
  - Imagine firm value is a function only of managers' effort and 'luck'
  - Stewardship and valuation require different information
    - Valuation: need information on effort and luck combined ('effort information' is insufficient)
    - Stewardship: cannot observe managers' effort directly, so accounting system needs to provide information on managers' actions (information on 'luck' is a noisy measure of managers' effort)

Professional equity investors: Characteristics

- Highly important capital providers across EU (OECD, 2011)
  - Pension funds, insurance companies and investment/mutual funds
  - Potentially different horizons and levels of investment activity
  - Distinctions in literature focus on differences between fund managers and analysts and buy-side/sell side analysts (e.g. Schipper, 1991; Barker, 1998)
- Main decisions:
  - Financial/investment decision
    - Buy/hold/sell shares
    - Forward looking requiring information on future cash flows
    - Valuation technologies use
  - Stewardship/accountability/control
    - Backward looking/present information

Information environment: Ramnath et al. (2008)

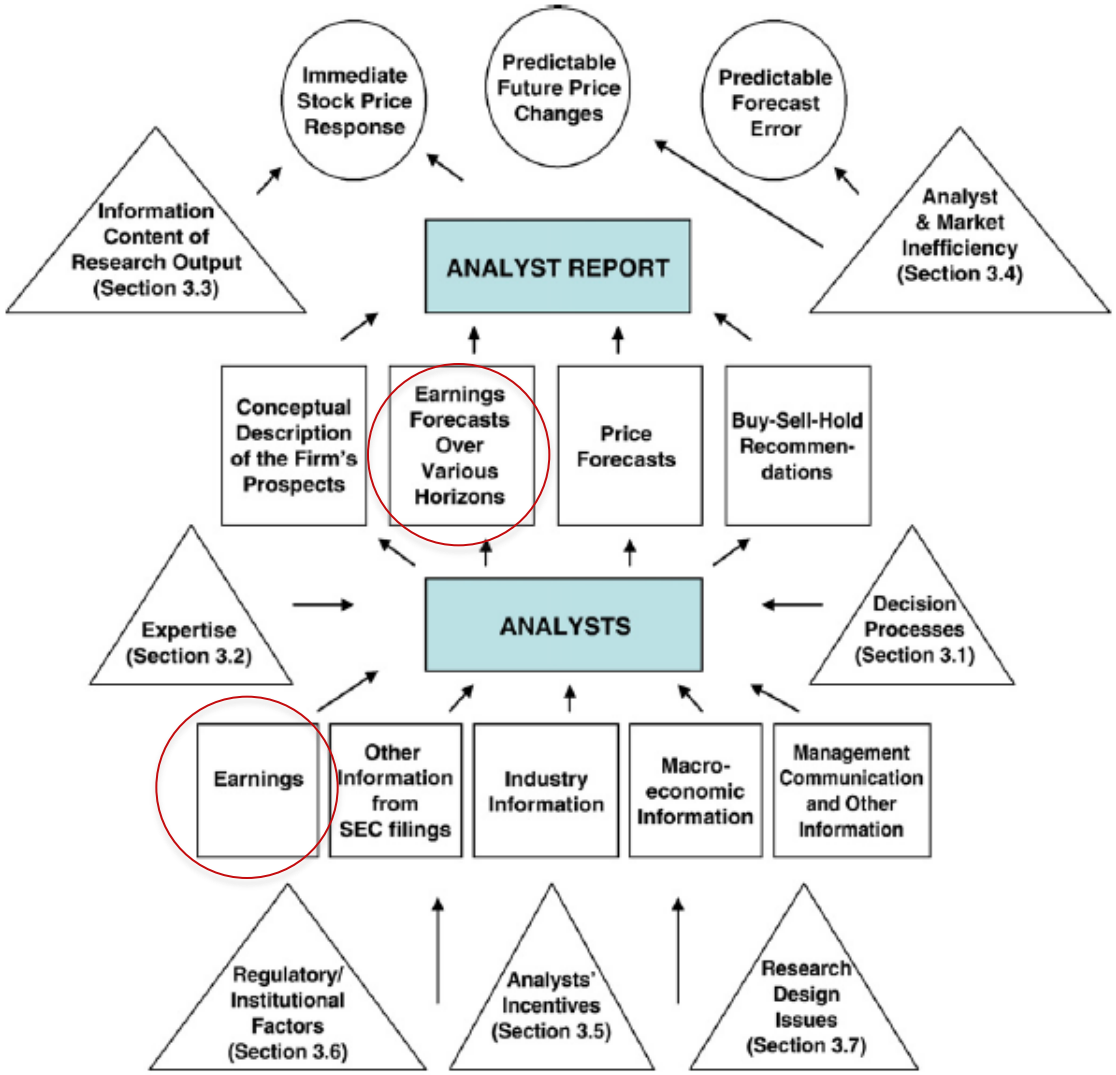


Fig. 1. Analysts' Reporting Environment.

Table 2

Importance of Financial Statements to Professional Investors

Vergoossen (1993)	Olbert (1994)	Barker (1998)	Barker (1998)	Marton (1998)	Martinez Conesa and Ortiz Martinez (2004)	Clatworthy (2005)	Ernst et al. (2005)	Glaum and Friedrich (2006)	Ernst et al. (2009)	Gassen and Schwedler (2010)
Questionnaires: 175 **Dutch** analysts (both buy-side and sell-side)	Questionnaire: 273 **Swedish** analysts (both buy-side and sell-side)	Questionnaire: 42 **UK** analysts	Interviews: 39 **UK** fund managers	Interviews: 15 **German**, **UK** and **US** sell-side analysts (1 buy-side)	Questionnaire: 45 **Spanish** analysts (buy-side and sell-side)	Questionnaire: 380 **UK** analysts and fund managers	Questionnaire: 37 **German** and 16 '**Anglo**' institutional investors in Deutsche Post	Interviews: 25 sell-side telecoms analysts; **UK** and **Germany**	Questionnaire: 149 institutional investors in Thomson Financial One	Questionnaire: 242 (mainly equity) analysts mainly from **Europe**
1. Most recent annual report	1. Financial statements	1. Direct company contact	1. Meetings with management	1. Income statement	1. Consolidated income statement	1. Meetings with management	1. Annual report (inc. financial statements)	1. Contact with company representatives	1. Direct personal company communication	1. Annual financial statements
2. Management Communication	2. Interim results	2. Analysts' meetings	2. Annual report and accounts	2. Balance sheet	2. Contact with directors	2. Company visit	2. Direct personal company communication	2. Financial statements	2. Quarterly reports	2. Direct personal management contact
3. Interim reports	3. Notes to financial statements	3. Results announcements	3. Interim report and accounts	3. Management report	3. Annual report	3. Most recent annual report	3. Quarterly reports	3. Analyst conferences	3. Annual report (inc. financial statements)	3. Notes to financial statements
4. Offering prospectuses	4. Company personnel	4. Annual report and accounts	4. Analysts	4. Notes to financial statements/cash flow statement	4. Notes to consolidated accounts	4. Preliminary earnings announcements	4. Investors meetings	4. Company visits	4. Investor meetings	4. Quarterly financial statements

Evidence on information usage

- Consistent results from survey-based work
  - Fundamental analysis (esp. P/E and DCF) predominant approach
  - Evidence of industry variation (e.g. Demirakos et al., 2004)
- Main information sources
  - Financial statements vital, though not sufficient, information source
    - Income statement dominates, consistent with P/E model's prevalence
    - Understanding of key measurement issues is sometimes low
    - Recognition versus disclosure is important (Nelson and Tayler, 2007)
    - May be misled by pro-forma earnings (Andersson and Hellman, 2007)
    - Look for 'persistent' earnings (Barker, 2000; Imam and Barker, 2008)
    - Limited post-IFRS evidence, but opinions on fair value depend on asset class (Gassen and Schwedler, 2010)
  - Direct company contact
    - Relevance/reliability trade off (Ernst et al., 2009)
    - Management contact centred on accounting information (Barker, 1998; Holland, 1998), as well as strategic information and quality assessments

Evidence on professional investors' information usage

- 'Other' information is important in theory and in practice (e.g. Ohlson, 1995)
  - Non financial information heavily contingent on firm factors
    - Industry/growth (Demirakos et al., 2004)
    - Nature of the news (Coram et al., 2011)
    - Nature of the asset being valued (more relevant for valuing intangibles)
  - Other analysts (e.g. Clatworthy and Jones, 2008), esp. for fund managers/buy-side analysts
- Accounting and non-financial information are not used independently
  - Non-accounting information used to assess accounting quality (Barker, 1998; Barker and Imam, 2008)
  - Links with stewardship (Roberts et al., 2006)
    - 'Meetings serve to acknowledge the property rights of their share-holders, and their right to monitor the performance of managers and to hold them accountable.'

How is the information used?

- As part of valuation models BUT:
  - Valuation is usually a screening device (Barker, 1999b)
  - P/E not used in isolation to arrive at the equity investment decision (Imam et al., 2008)
  - Other information/qualitative factors (such as quality of management) affect ultimate valuation (Barker, 1999b)
  - Poor linkages between valuations and recommendations (Bradshaw, 2004), though accounting signals dominate recommendations (Barker and Imam, 2008)

- Social and contextual/relationship aspects are important, as well as the economics
  - Social interactions, power relationships and institutional background are crucial (Fogarty and Rogers, 2005; Roberts et al., 2006)

Retail investors: Characteristics

- Relatively low endowment in
  - personal wealth and
  - information processing capabilities
- Limited impact on price discovery *but*
- Significant liquidity provider (Kelly and Ljungqvist, 2012)
- Consequently, retail investors are "on the radar" of regulators and standard setters alike

Information needs of RI: Direct evidence

- Evidence is mostly survey-based, so usual disclaimers apply
- Four main information sources (ordered by overall importance, but significant variance across studies)
  - Public media
  - Financial advice by brokers etc.
  - Financial statements
  - Friends, family, etc.
- In general: Filtered information dominates unfiltered information
- Focus on traditional financial statements, new concepts tend to be over-looked, notes are largely ignored
- Relative to institutional investors, narrative info (MD&A, letter(s)) is given more weight

Insider investors: Relevance and characteristics

- Active involvement in the firm managerial decision process
  - overlap of ownership and control
  - hold poorly diversified portfolios
  - control senior management positions
  - have a long-term orientation
- Most common type of insider investors is entrepreneurial families (Shleifer and Vishny, 1986)
- Combination of ownership and control can be potentially beneficial (Demsetz and Lehn, 1985; Anderson and Reeb, 2003)
  - lower risk of wealth expropriation
  - lower probability of myopic behaviour (short-termism)

Information needs of insider investors

- Evidence is mostly archival therefore only provide indirect findings
- Insider investors are at the same time users *and* producers of accounting information
  - the production phase (i.e., the supply of accounting information) provides useful indirect insights on the information needs (i.e., the demand of accounting information)
- Focus on the quality and properties of financial accounting information
- Only paper providing survey evidence (Upton, Teal, and Felan, 2001):
  - Information need: sufficient level of detail to link business planning to actual performance and calibrate management compensation to financial results

Debt markets

- Public vs. Private debt (Bharath et al., 2008)
  - Lenders across these markets differ with respect to their
    - *Access to information*,
    - *Ability to monitor the firm*,
    - *Flexibility in resetting contract terms* and,
    - *Costs of renegotiating the contract*, both in terms of the price (i.e., the interest) and non-price (i.e., maturity and collateral) terms.
  - Loans and syndicated loans in private debt markets have **banks as lenders**, while public debt is held by dispersed arm's-length lenders (the **bondholders**)
  - Low-disclosure, low-accounting quality, high information asymmetry firms prefer to issue private debt instead of public debt (Dhaliwal et al. 2011; Krishnaswami et al., 1999)

Debt markets: What decisions?

- **Decision being made**:
  - Provide debt financing or not
    - Set/influence price (i.e., the interest) and non-price (i.e., maturity and collateral) terms
  - Leave control of assets with equity providers
    - Covenants in contract act as 'tripwires'

- **Key information needed:**
  - Assess financial distress: the probability that a firm will not be able to repay its financial obligations as they mature.
  - Models that are used:
    - Temporary problems: Bond default
    - Permanent problems: Bankruptcy prediction

Debt markets: What models?

- Major concern: assessing insolvency
  - Insolvency ≠ cash balance equals zero; liabilities that exceed assets?
    - What is asset and liability? Beaver et al. (2010)
      - It is not GAAP definitions, as high technology firms, for example, have negative accounting net worth but survive for many years
        - » Unrecognized assets are relevant.
      - What value asset and liabilities?
- What logic in models used?
  - Predicting insolvency/bankruptcy is not really a (0,1) model.
    - Predicting no firm will go bankrupt would be accurate at >99%
    - Loss function for prediction errors is **asymmetric** (Beaver, 1966)
      - What is predicted is the **expected loss**
  - Technology required: likelihood ratios, loss ratios (relative cost of misclassifying a firm as financially distressed or not)

Debt markets: Debt contracts and control

- Accounting numbers are extensively used in debt contracts
  - Accounting impacts lenders' estimates of future CFs from which debt repayments are serviced, and also, the types of covenants:
    - More opaque financial accounts are more likely to have covenants that restrict dividend payouts (Chava et al., 2010)
      - Graham et al. (2008) show firms with restated statements agree to additional covenants in subsequent loans to appease the concerns of the lenders
    - Covenants are formulated in terms of a variety of accounting ratios (Leftwich, 1983, Dichev and Skinner, 2002)
      - Covenants that restrict dividends, financing and investment policy are frequently specified in terms of accounting data (Smith and Watson 1979).
      - Commonly based on firm net worth, working capital, leverage, interest coverage, and cash flow (Gârleanu and Zwiebel, 2009), and are more likely in private debt issues (Kahan and Tuckman, 1995; Chava and Roberts, 2008)
    - Both capital (CC) and performance covenants (PC) use accounting
      - CC information on sources and uses of capital (B/S), PC current period profitability and efficiency (I/S and CF/S) (Christensen and Nikolaev, 2012)

Debt markets: Credit/bond analysts

- Both users and providers of information
  - Greater demand for negative information (De Franco et al., 2009; Easton et al., 2009), consistent with a preference for conservatism
    - Predictability is +associated with ratings (Crabtree and Maher, 2005)
  - Extant research supports the idea that they gather off-balance sheet information (Graham et al., 2001)
  - But, they fail to incorporate all the accounting information into their recommendations, particularly taxes (Ayers et al., 2010), or asset securitizations (Barth et al., 2012)
    - Bhojraj and Swaminathan (2009) suggest that bond markets may not be entirely efficient in processing accounting information: accrual anomaly

Debt markets: Experimental evidence

- Experimental evidence
  - Viger et al. (2008): loan officers may fixate on reported figures and fail to process the disclose information (as opposed to recognized).
    - Knowledge or experience does not eliminate fixation problems (Dearman and Shields, 2005),
      - Simple recommendations: such as keeping all relevant information relatively close either on the face of the financial statements or in the footnotes –but not spread out, may help (Bloomfield et al., 2011).
    - Loan officers read the financial statements and accompanying information in slightly different ways, depending on their own mental processes (Rodgers, 1992),
      - They change their risk perception when auditors qualify the financial statements (Gul, 1987; Bamber and Stratton, 1997),
      - Suffer from 'recency effects' (Abdel-Khalik et al., 1986, Guiral-Contreras et al, 2007). Consistent with the view that financial statement users have limited attention and procession abilities (e.g., Hirsliefer and Teoh, 2003).

Trade creditors: Characteristics

- Credit managers or persons who decide on credit terms:
  1. Are usually not as financially sophisticated (compared to bankers)
  2. Have access to informal & formal sources of information about suppliers / buyers
  3. Tend to rely on intermediaries (such as credit bureaus, factors or credit insurers - SFAC, Atradius or COFACE in Europe).
- In Europe more than 75% of transactions are NOT settled immediately. Average credit terms typically range between 32 (Norway) and 115 (Greece) days (Intrum justitia, 2011, European Payment Index)
- Despite their importance, trade creditors are not "on the radar" of regulators and, on a more general note, their existence and their information needs are largely ignored by the literature.

Decisions taken by credit managers

- Trade credit wise, firms have two main decisions:
  - To accept or not a new customer
  - To set the credit terms for accepted customers

- Pike and Cheng (2003) report that 81% of the 154 UK firms surveyed use a credit bureau for assessing credit risk.
- This relatively high percentage is confirmed by a recent survey conducted by the University of Leeds (2006):
  - 90% of the sampled firms manage internally their credit policy;
  - however 64% of surveyed firms rely on external sources for risk assessment credit term.
- These external sources include credit bureaus and credit insurers in Europe (ICISA, 2012). This market is dominated by the "big threes" in Europe: Euler Hermes, Atradius and COFACE (Jones, 2010).

Information needs of trade creditors

- Arrunada (2011) is the sole study to detail the information valued by users of credit information services:
  - 90% of the users use the service to get information about SMEs, mainly to get information about new clients (60%) and to make decisions about credit terms (67%).
  - Information sources considered to make these decisions are accounting information (83%) and past history of judicial incidents (55%).
- Once the decision about accepting a new customer is made, credit terms are largely determined by non financial factors.
  - Cheng and Pike (2003) argue that industry standards determine credit terms for a sample of UK Firms.
  - Gill (2012) challenges this view and finds that credit terms are largely determined by firm specific factors.
  - Klapper et al. (2012) find that large, investment-grade buyers get long terms from small suppliers consistent with relatively untrusted suppliers extending longer terms to buyers to guarantee product quality.
- Whatever the correct analysis is, this leaves little room for accounting information in setting credit terms.

Information needs of credit bureaus

- Credit bureaus are key intermediaries for trade credit decisions
- They create a comprehensive report that is sold to lenders (Kallberg and Udell, 2003):
  - A *credit report* is an organized presentation of information about company's experiences with credit, leases, non-credit-related bills, collection agency actions, monetary-related public records, and inquiries about the credit history.
  - Credit bureaus collect both *soft* (informal) and *hard* information (quantifiable and storable information for instance financial reports; Peterson, 2004).
- Kallberg and Udell (2003) is the only empirical study to analyze the information used by credit bureau to issue their report.
  - They suggest that the value of the information generated by credit bureau goes beyond information that is otherwise available to lenders including information contained in borrower financial statements.
  - They state that "to many credit grantors, the most important part of these reports is the information relating to how well the subject firm is meeting its credit obligations. This includes detailed information about the firm's payment experiences".
  - This suggests that if accounting information is necessary ingredient for credit bureaus it does constitute only a small part of the inputs actually used.

Information needs of trade creditors

- Trade creditors are economically relevant and significant financing providers to the firms
- There is a lack of research on their information needs and how they make decisions
- Role of financial reporting?
  - Useful to indentify new customers
  - Credit terms are largely determined by non financial motives
  - Significant role of information intermediaries (credit bureaus) who rely on accounting information but also (and mainly) on non financial information.

Limitations

- Relatively limited research observing capital providers' decisions directly
- Existing work becoming outdated
- Research on debt markets dwarfed by equity markets research despite the relative importance of the two sources of capital
- Little known about what capital providers *would* find useful

Primary implications for standard setters

- Evidence-based standard setting is (at least up to now) ambitious since suitable direct evidence is limited
- One size does not fit all: General (framework) or ad-hoc (standard) decisions are needed
- Financial accounting information becomes relevant *only* in combination with other sources: Standard setters should think about their competitive advantage when developing standards
- Changing standards implies costly changes of contracts
- Recognition versus disclosure matters
- The behavioral biases of users and intermediaries matter

Future academic research

- Step 1: Descriptive evidence on usage of financial reporting information by capital providers.
- Step 2: Develop positive theories about determinants and consequences of FRI usage.
- Step 3: Test these theories in suitable settings.
- Step 4: Use gathered evidence to provide normative guidance on relevant financial reporting issues.

Summary and conclusions

'Despite the wide variety of alternative sources available, it should reassure standard setters that audited financial statements occupy a unique position in capital markets, despite their inherent limitations. They are unique in being regulated, recurring, standardized and independently verified and thus enhance the utility of other sources information, making them flourish.'

To obtain the report

The full report is available from ICAS and EFRAG at:

http://icas.org.uk/clatworthy/

http://www.efrag.org/files/Academic%20Research/EFRAG_ICAS_27-12-17.pdf