Earnings Quality

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Accounting Quality Scandals

- Enron – special purpose entities to hide debt
- WorldCom – capitalization of expenses
- Tyco – disclosure of loans
- Qwest International – network capacity swaps
- Xerox – long-term leases and cookie jar reserves
- Waste Management – capitalization rules
- HIH – underestimation of insurance liabilities
- Harvey Norman: franchisees revenue (Boston Chicken)
- Parmalat – cash balance overstated

What has caused the observed decline in earnings quality?

- Poor corporate governance
- Management compensation packages
- Decline in auditing quality
- Movement away from manufacturing towards the creation of intangible assets that are difficult to value
- Philosophical change in accounting standard setting
- Lack of scrutiny by financial analysts
- Growth of institutional investors with no interest in firm’s business
- State of the economy

Outline of monograph

- Define earnings quality (Chpt 2)
- Provide evidence from research on financial statement analysis to assess earnings quality (Chpts 3-6)
- Provide evidence on red flags that suggest potential earnings quality issues:
  - Incentives for earnings management (Chpt 7)
  - Corporate governance (Chpt 8)
- Provide evidence of the role of voluntary disclosures in predicting earnings(Chpt 9)

What is earnings quality?

- Earnings quality is contextual depends on user
  - Standard setters
  - Auditors
  - Compensation committees
  - Debt holders
  - Investors
  - **Financial analysts**
- All would agree fraudulent reporting is low quality
- We adopt a financial analyst perspective

What is earnings quality?

- Objective of the financial analyst
  1. Forecast earnings
  2. Make stock recommendations

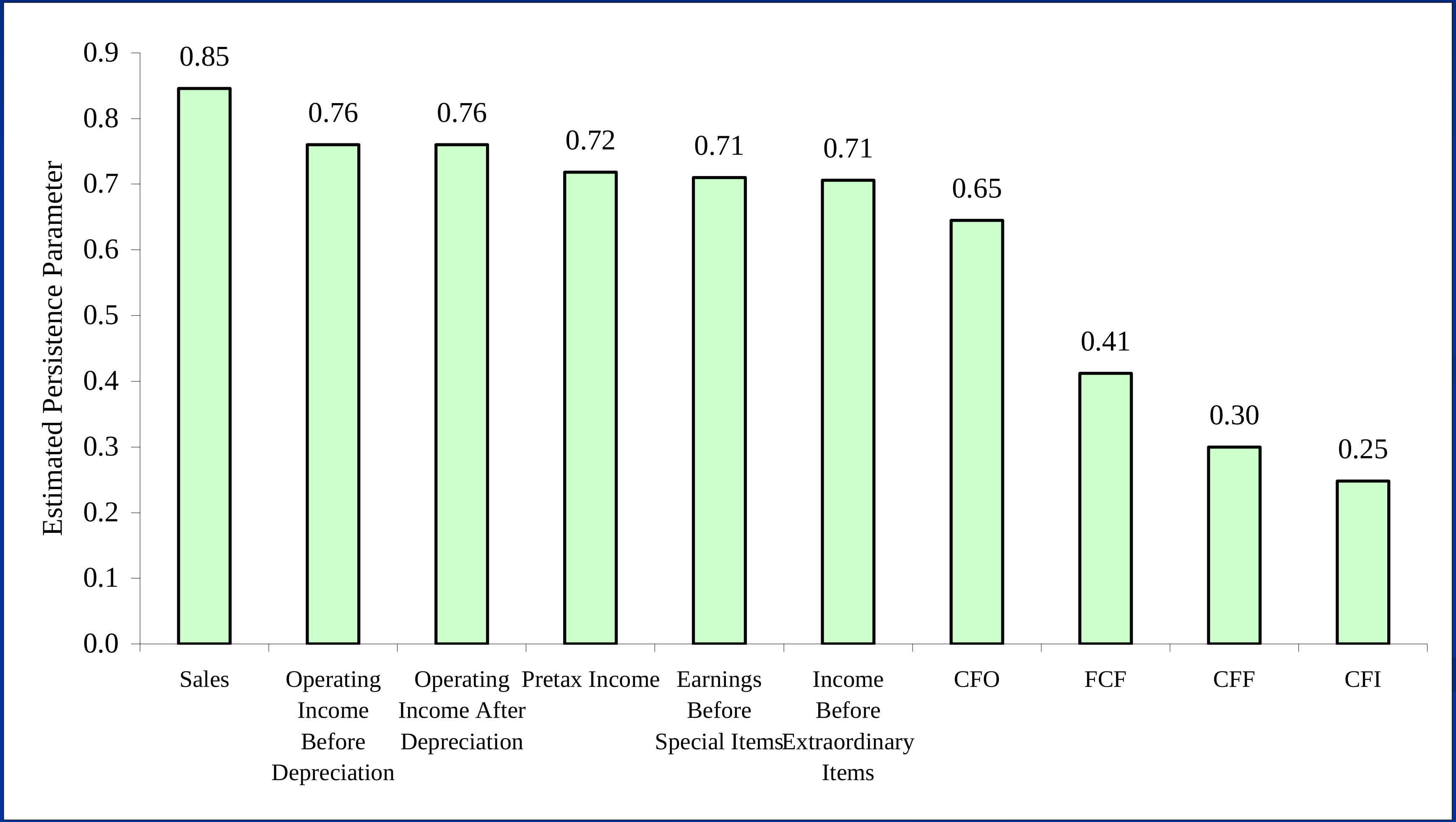
- Earnings are higher quality:

1. The more predictable and easier to forecast; AND
2. The better they map into intrinsic value

1. Earnings predictability

- What factors make earnings easier to predict compared to cash flows?
  - The higher persistence (β close to one)
    - $E_{t+1} = \beta E_t + \varepsilon_t$
  - The fewer transitory components
  - The less volatile
- On average, earnings is superior to current cash flows on these dimensions

Persistence of earnings vs cash flows



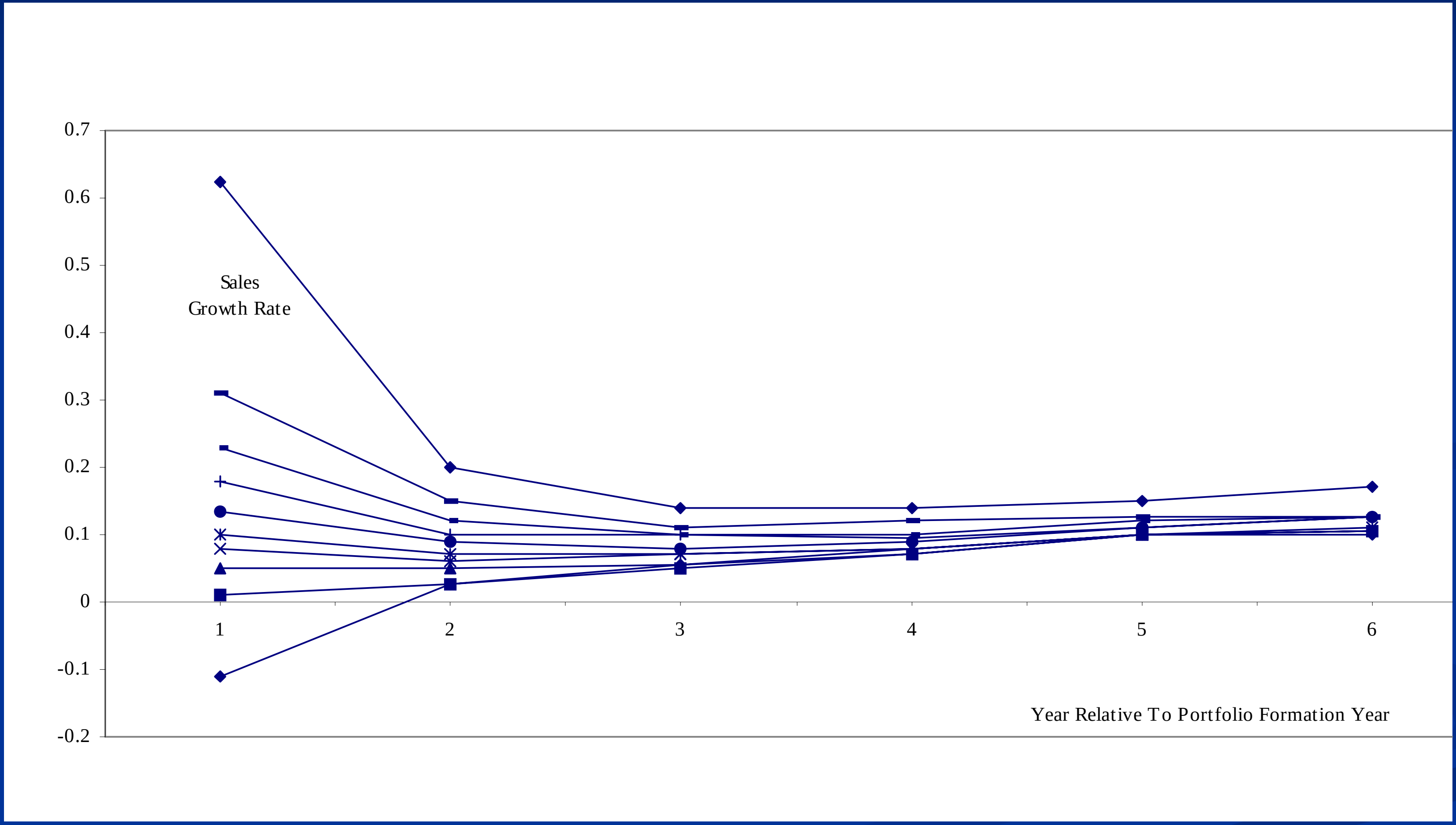
2. Earnings and intrinsic value

- Do earnings map into value better than do cash flows?
  - Measuring intrinsic value
    - Current stock price
    - Actual future cash flows
    - Residual income model value (using future prices)
  - Stock prices – yes – but functional fixation?
  - Future cash flows – mixed – but it's a noisy measure
  - Intrinsic value – generally yes
- Suggests that on average, earnings map more easily into value than do current cash flows.

What affects earnings predictability across firms?

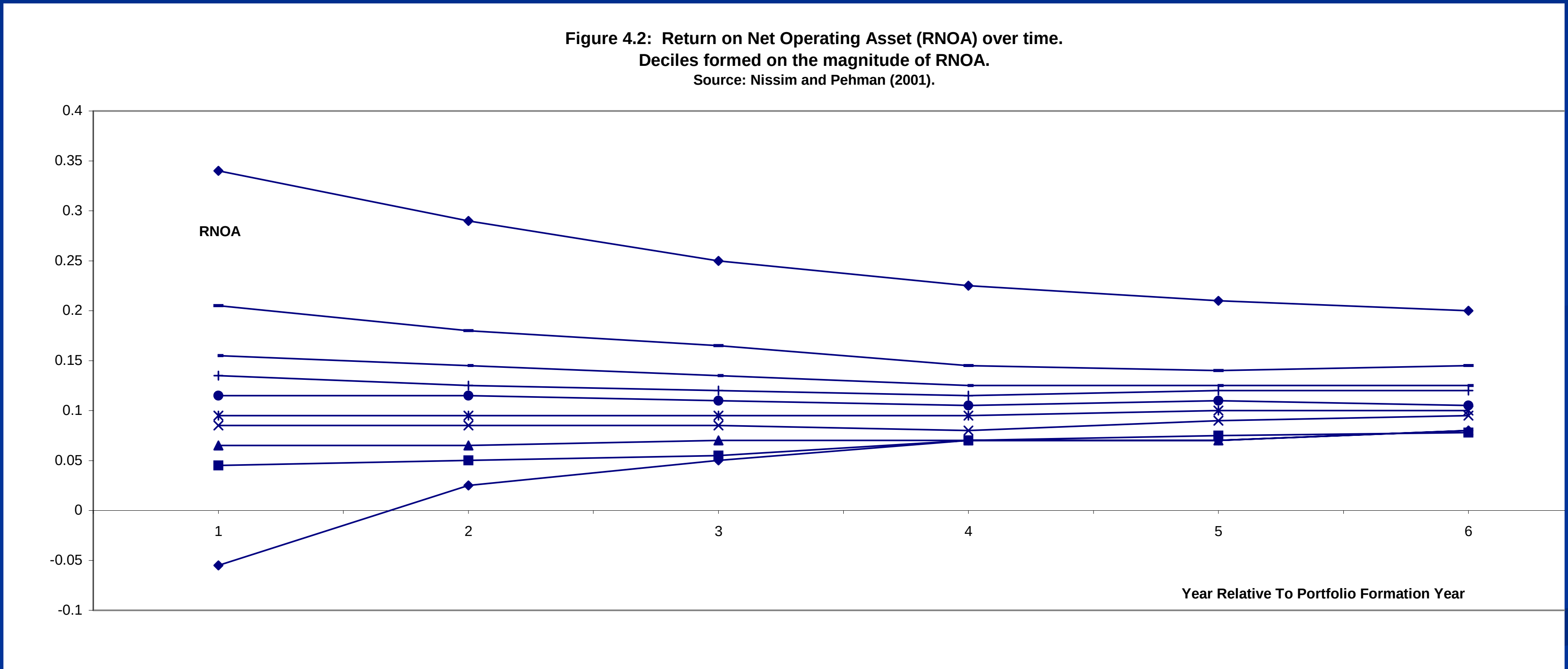
- Stage of firms life cycle (steady state vs growing or declining)
  - Sources of competition particularly for growing firms
  - Transitory components and losses for declining firms
  - Financial statement analysis of I/S and B/S components
- Quality of forecasts and estimates made by management imbedded in accruals (intentional and unintentional estimation error)
- Accounting standards followed by the firm
- Management's voluntary disclosures

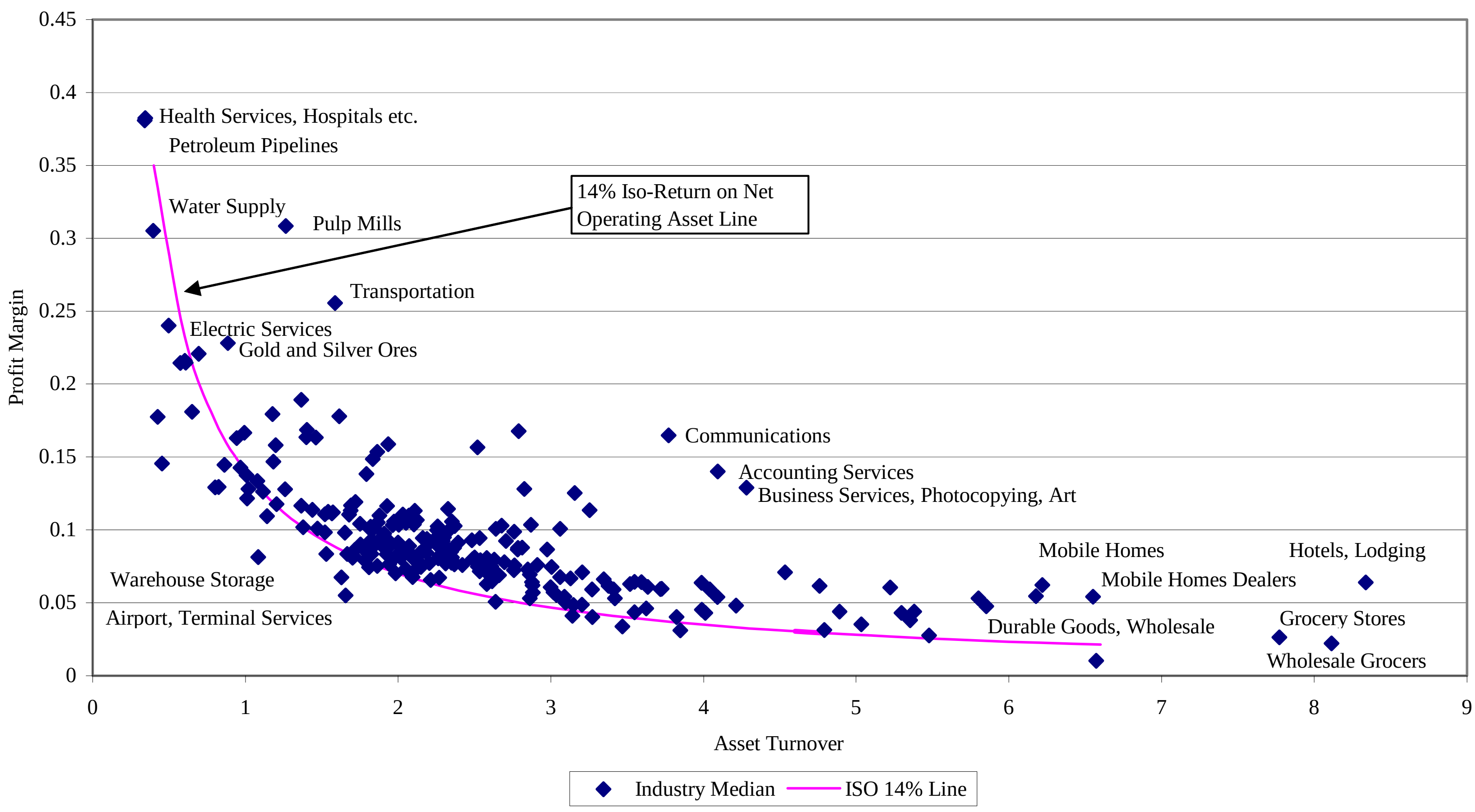
Stage of life cycle and persistence: Sales growth



Source: Nissim and Penman (2001)

Stage of life cycle and persistence: RNOA growth





Soliman (2003): This figure plots 248 three- digit SIC industry groups from 1970- 2001. The sample consists of 77,199 firm-year observations. The points represent median profit margin and median asset turnover by industry. The Iso- RNOA line represents the profit margin and asset turnover combination that would result in an RNOA (return on net operating assets) of 14%.

Persistence is affected by non-operating components

Model		ROE$_{t-1}$ only		Full Model	
		Coefficient	(Std. Dev)	Coefficient	(Std. Dev)
Intercept		0.042	(0.004)	0.029	(0.005)
ROE		0.664	(0.023)		
Gross margin				0.636	(0.022)
SG&A	Operating			0.639	(0.022)
Depreciation	income			0.629	(0.073)
Interest	components			0.621	(0.019)
Minority interest				0.615	(0.078)
Non-operating income				0.548	(0.037)
Income taxes				0.445	(0.028)
Discontinued operations				0.003	(0.028)
Extraordinary items				0.153	(0.058)
Adjusted R^2		42.3%	(0.029)	49.0%	(0.023)

Source: Fairfield, Sweeney, and Yohn (1996)

Persistence is predictable using I/S and B/S

Signal	Measurement	Coefficient (predicted to be negative) (* for significant)	
Inventory	ΔInventory - ΔSales	-0.017*	
Accounts Receivable	ΔAccounts Receivable - ΔSales	0.009*	(wrong sign)
Capital Expenditures	ΔIndustry CAPX - ΔFirm CAPX	0.005	(wrong sign)
Gross Margin	ΔSales - ΔGross Margin	-0.031*	
Selling and Admin	ΔSG&A - ΔSales	-0.010	(insignificant)
Effective Tax Rate	(Average ETR for past 3 years – ETR_t) x ΔEPS_t	-0.594*	
Inventory Method	0 for LIFO, 1 for FIFO or other	-0.006*	
Audit Qualification	0 for unqualified, 1 for qualified	0.014	(insignificant)
Labor Force	-1*(%Δ in sales per employee)	-0.026*	

Source: Abarbanell and Bushee (1997): regress the future change in earnings on current red flags

Persistence is a function of accruals

- Sloan (1996)

$$\text{Earnings}_{t+1} = \alpha + \beta\text{Earnings}_t + \varepsilon_{t+1}\text{, and} \quad (3.1)$$

$$\text{Earnings}_{t+1} = \alpha + \gamma_1\text{Accruals}_t + \gamma_2\text{Cash from Operations}_t + \varepsilon_{t+1}. \quad (3.2)$$

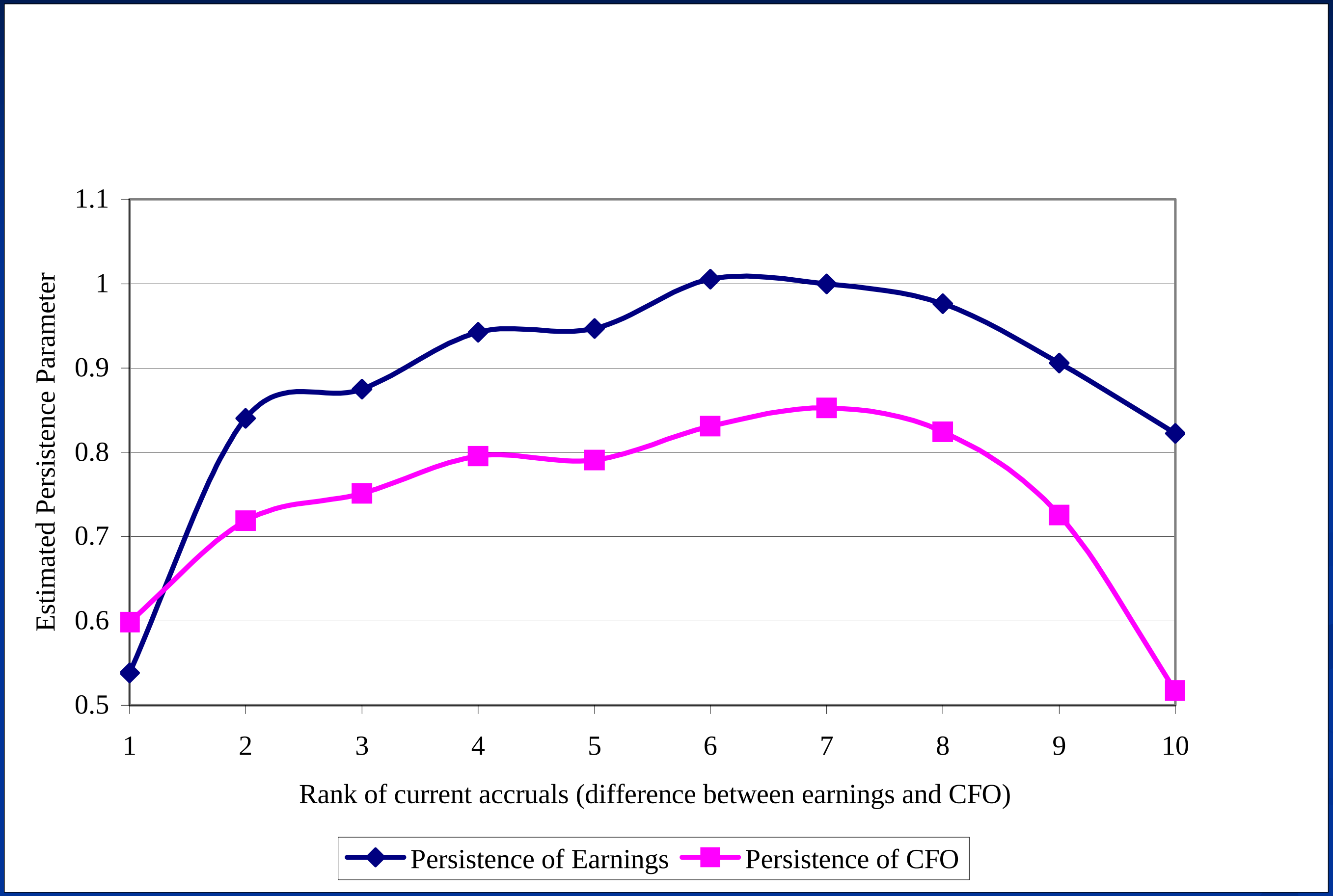
Sloan obtains the following result using 40,679 firm-years from 1962 – 1991:

	Earnings_t only		Accruals and cash flows	
Model	Coefficient	(t-statistic)	Coefficient	(t-statistic)
Intercept	0.015	(32.57)	0.011	(24.05)
Earnings	0.841	(303.98)		
Accruals			0.765	(186.53)
Cash from operations			0.855	(304.56)

Various decomposition of accruals can provide more insights into earnings persistence

- Decomposing accruals into inventory, A/R, A/P, tax payable, etc
- Decomposing accruals into “discretionary” vs “nondiscretionary” using Jones model
- Decomposing accruals based on extent of “estimation error”
- Taxable income versus book income
- Volatility of cash flows versus magnitude of accruals
- Nature of the business and operating cycle will also affect the level of accruals

Persistence is a function of accruals



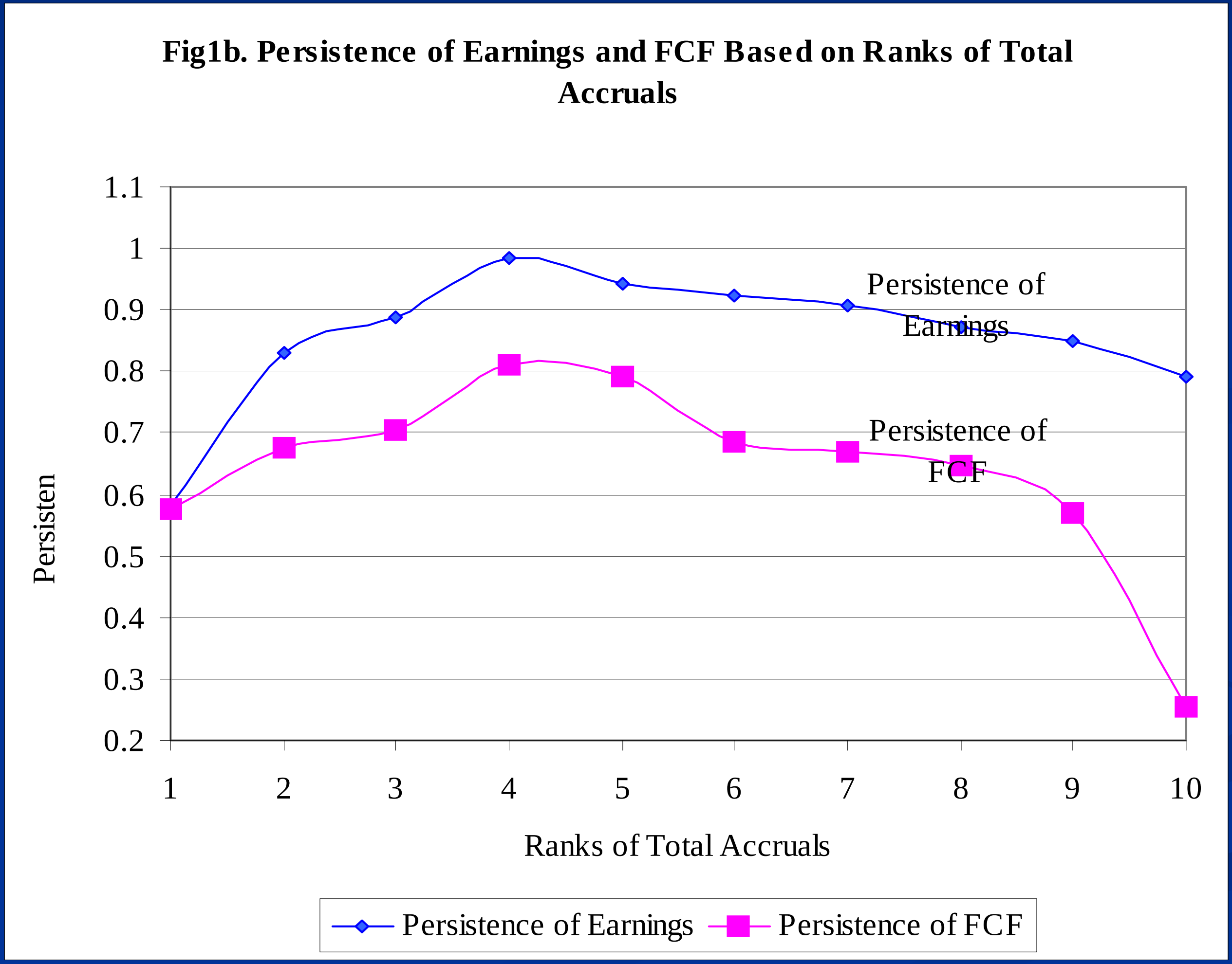
Source: Dechow and Ge (2003)

The sample consists of 98,624 firm-years from 1987 to 2002. Decile 1 consists of firms with the most negative accruals. Decile 10 consists of firms with the most positive accruals. Current accruals are calculated as the difference between earnings and CFO. The persistence coefficients of earnings and operating cash flows (CFO) are estimated from the following regressions:

Earningst+1 = at + bEarningst + et

CFOt+1 = at + bCFOt + et

Persistence is a function of both current and long-term accruals



Source: Dechow and Ge (2003)

What causes investors to misunderstand the nature of the quality of accruals?

- Manipulation of long-term and short term accruals
- Estimation error in extreme accruals that reverses
- Misunderstanding of future growth
  - Declining returns to scale
  - Over-optimistic growth forecasts by analysts for high accrual firms
- Misunderstanding of temporary components
  - (particularly for loss firms)
- High accrual are "glamour" stock , low accrual are "value" stock so driven partly by market sentiment

Persistence is affected by accounting standards used

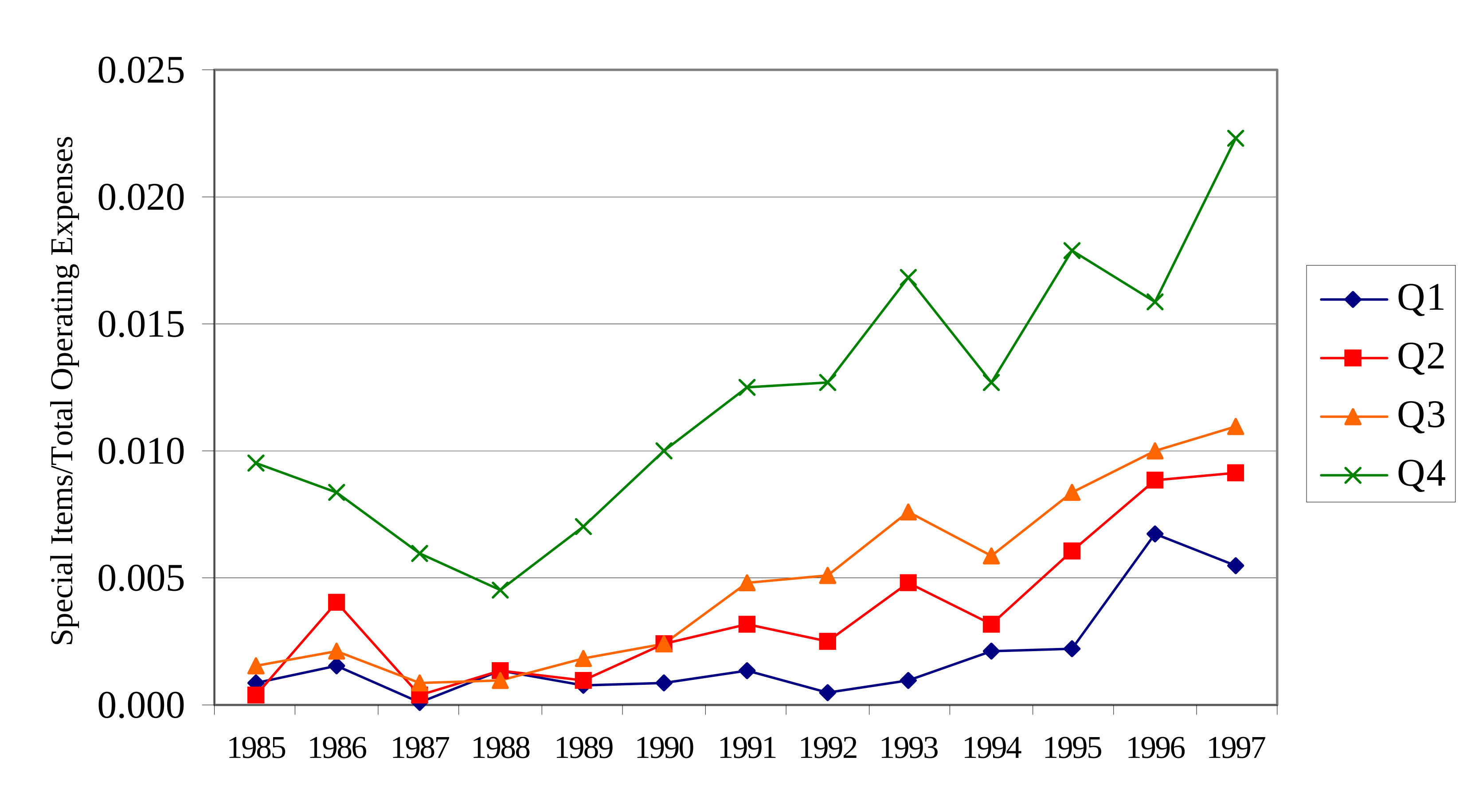
- What is income?
  - Income is an indicator of performance about an enterprise and its management; OR
  - Income is an enhancement of wealth or command over economic resources.
- Standards moving away from performance evaluation towards “balance sheet” focus (measuring assets and liabilities)

Income is an enhancement of wealth

- Accounting rules focus on valuing assets and liabilities (the balance sheet)
  - Fair value accounting
    - Securitization
    - Equity and debt securities “available for sale”
    - Asset impairments
    - Goodwill rules
    - Deferred taxes
- More transitory components
- Frequency of losses increases

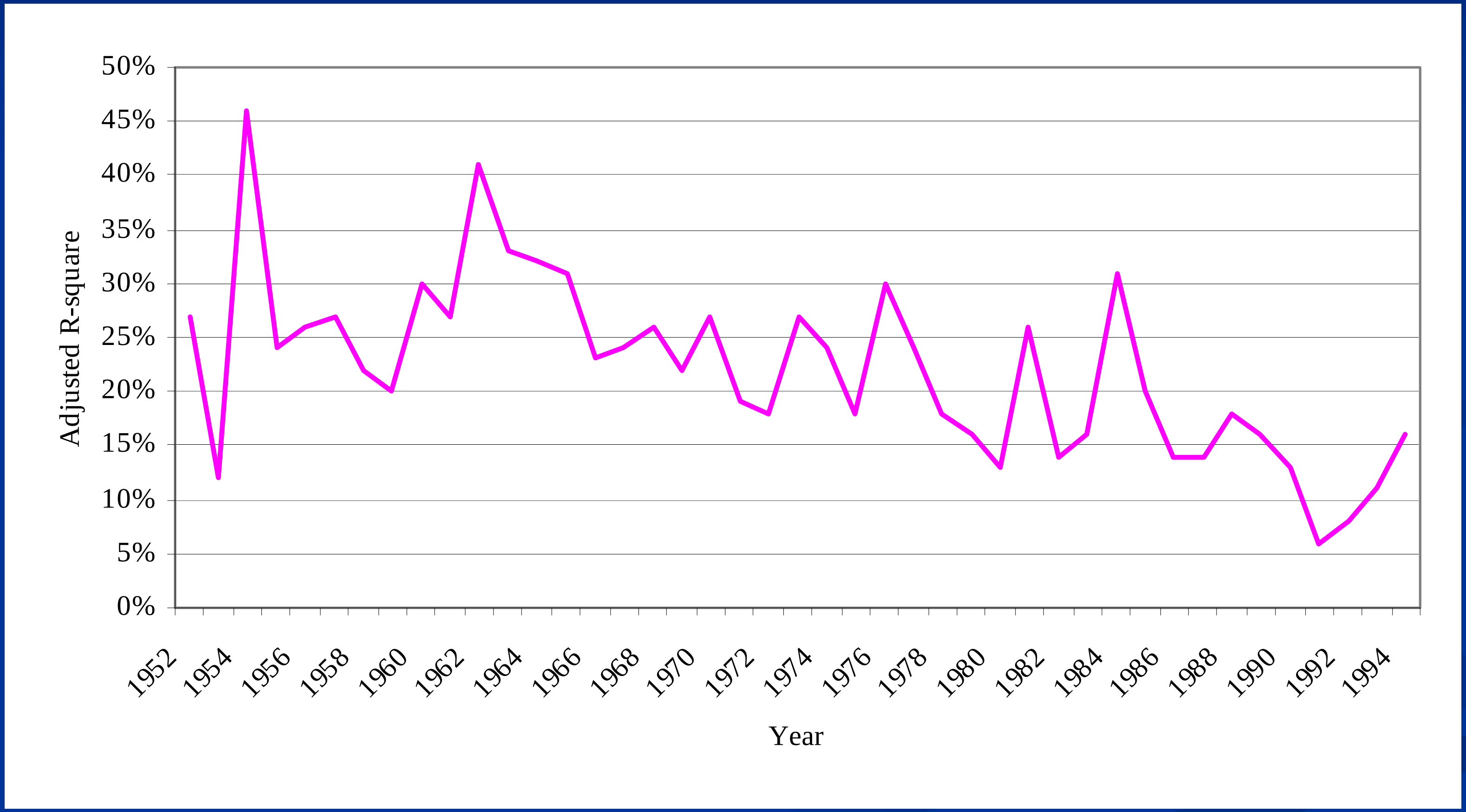
- Balance sheet approach implies a decline in earnings quality under our definition
  - More difficult to forecast earnings
  - Harder to map earnings alone into value

Frequency of special items has increased over time



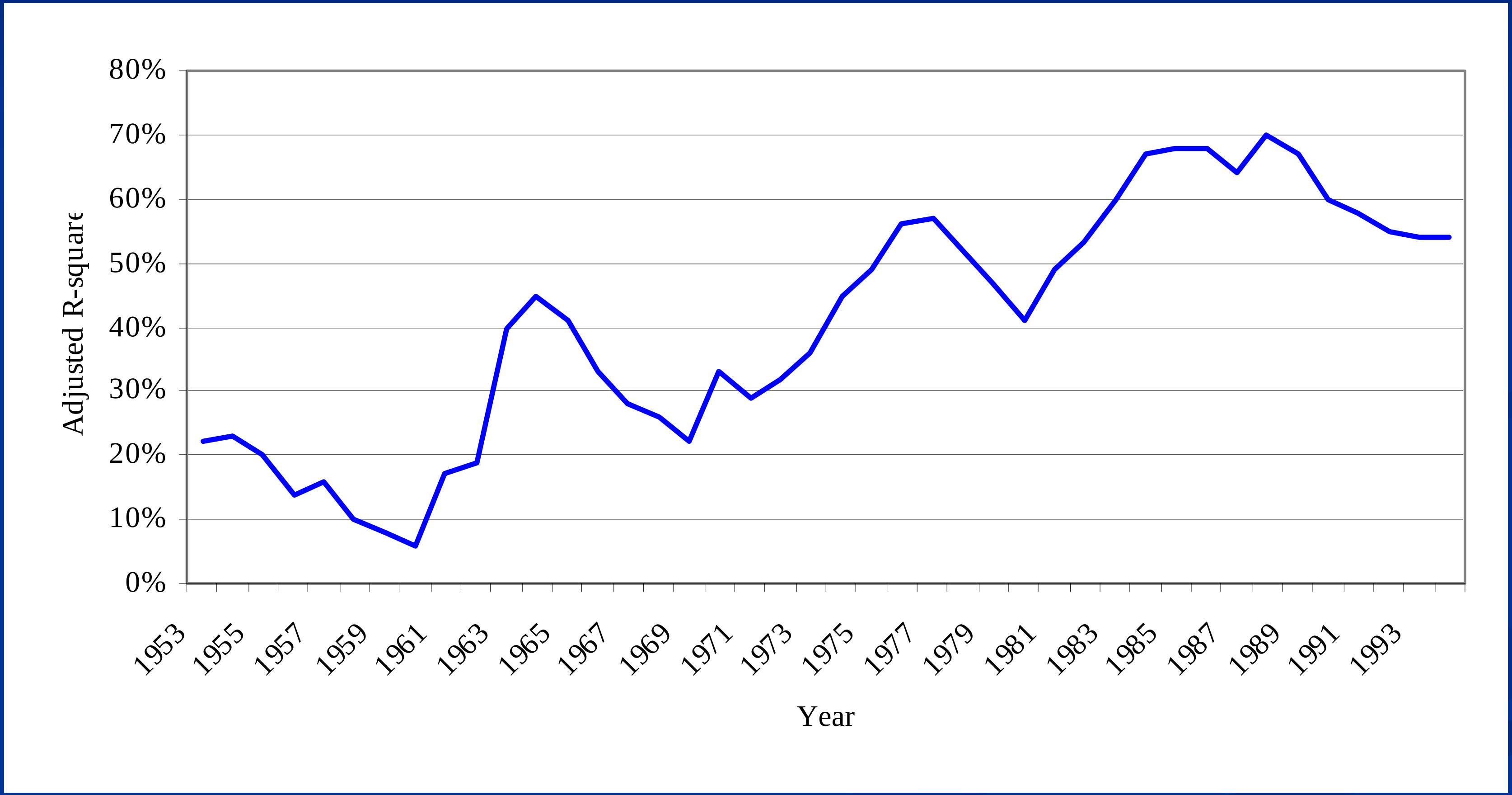
Source: Bradshaw and Sloan (2002)

Relation between earnings and returns:



Source Francis and Schipper 1999

Relation between book value and market value

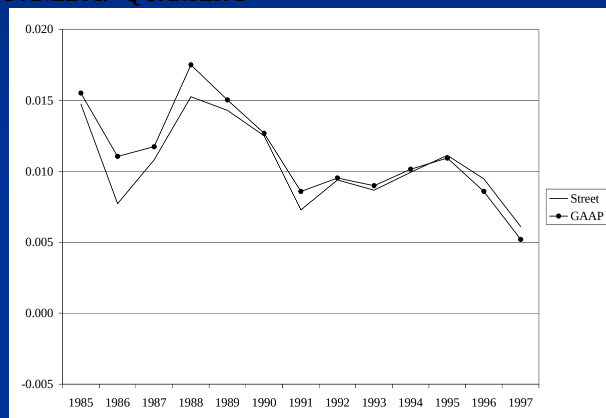


Source Francis and Schipper 1999

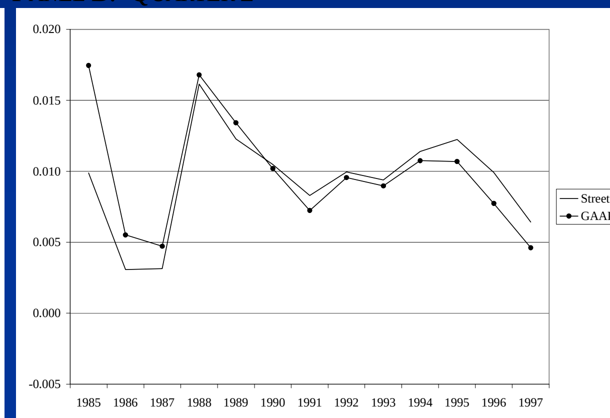
How has the market coped with decline in earnings quality? Rise of pro forma earnings

Source: Bradshaw and Sloan (2002)

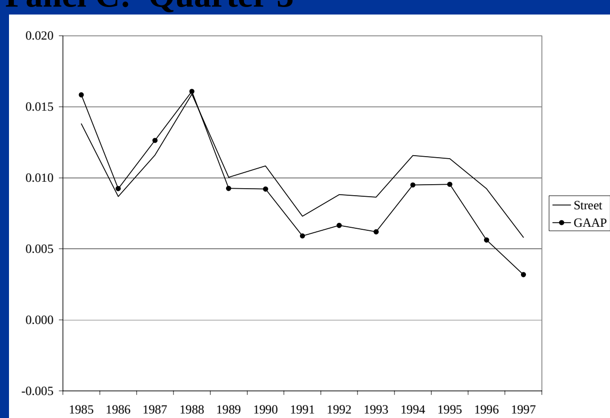
PANEL A: QUARTER 1



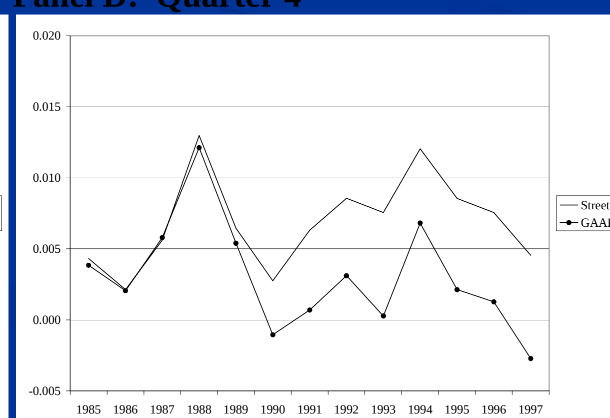
PANEL B: QUARTER 2



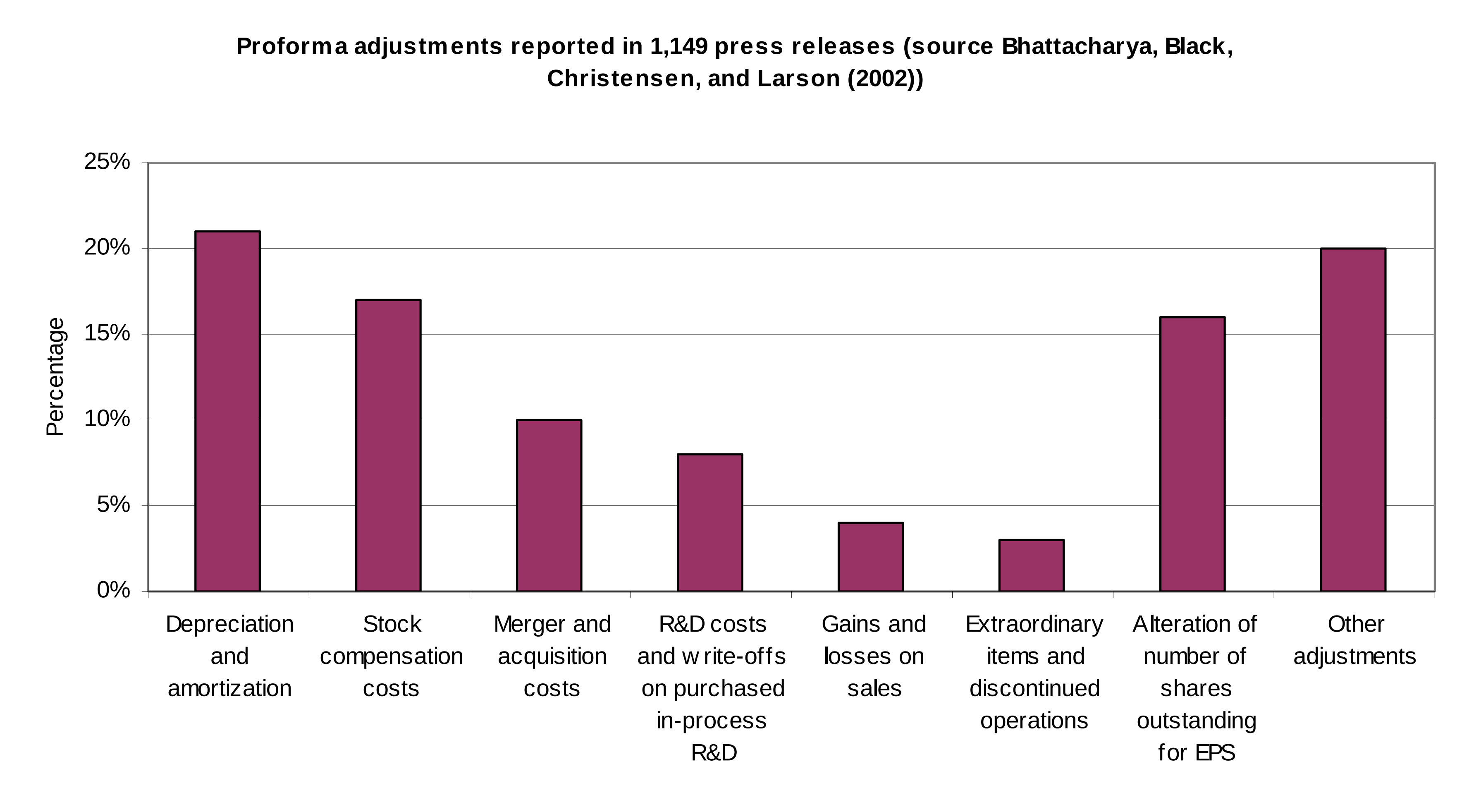
Panel C: Quarter 3



Panel D: Quarter 4



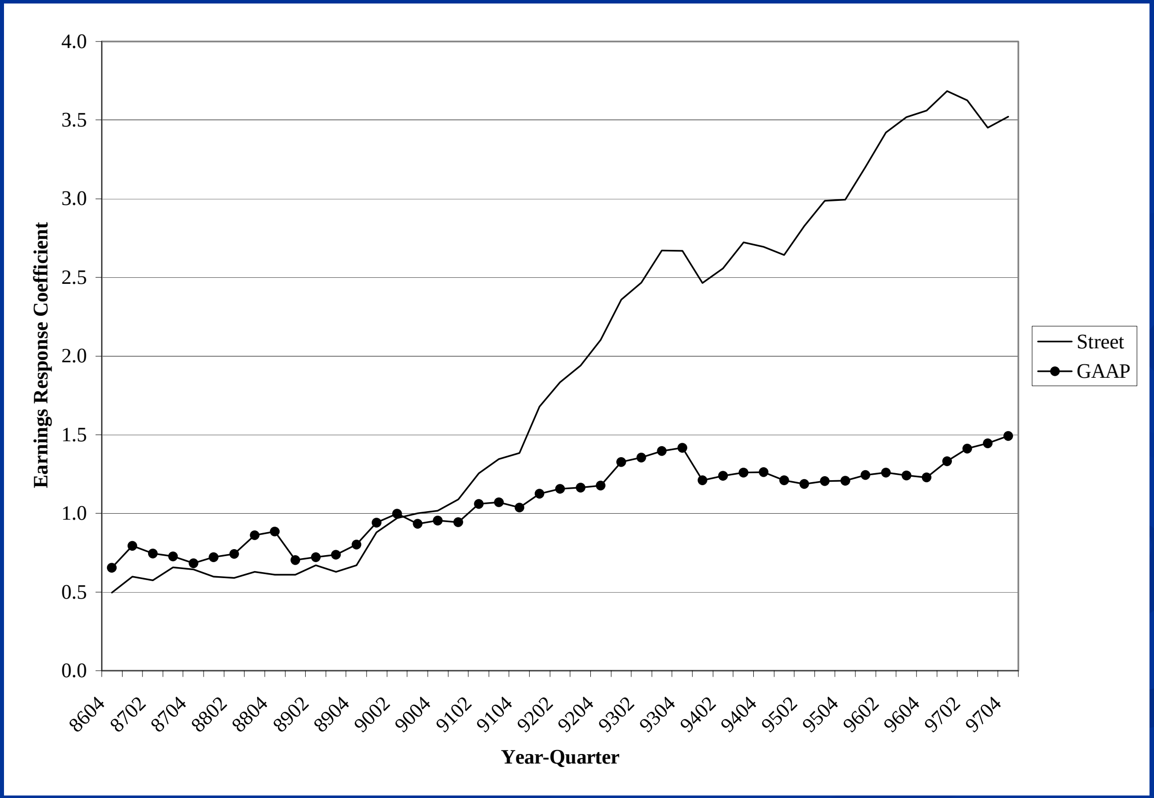
Are proforma higher quality than GAAP?



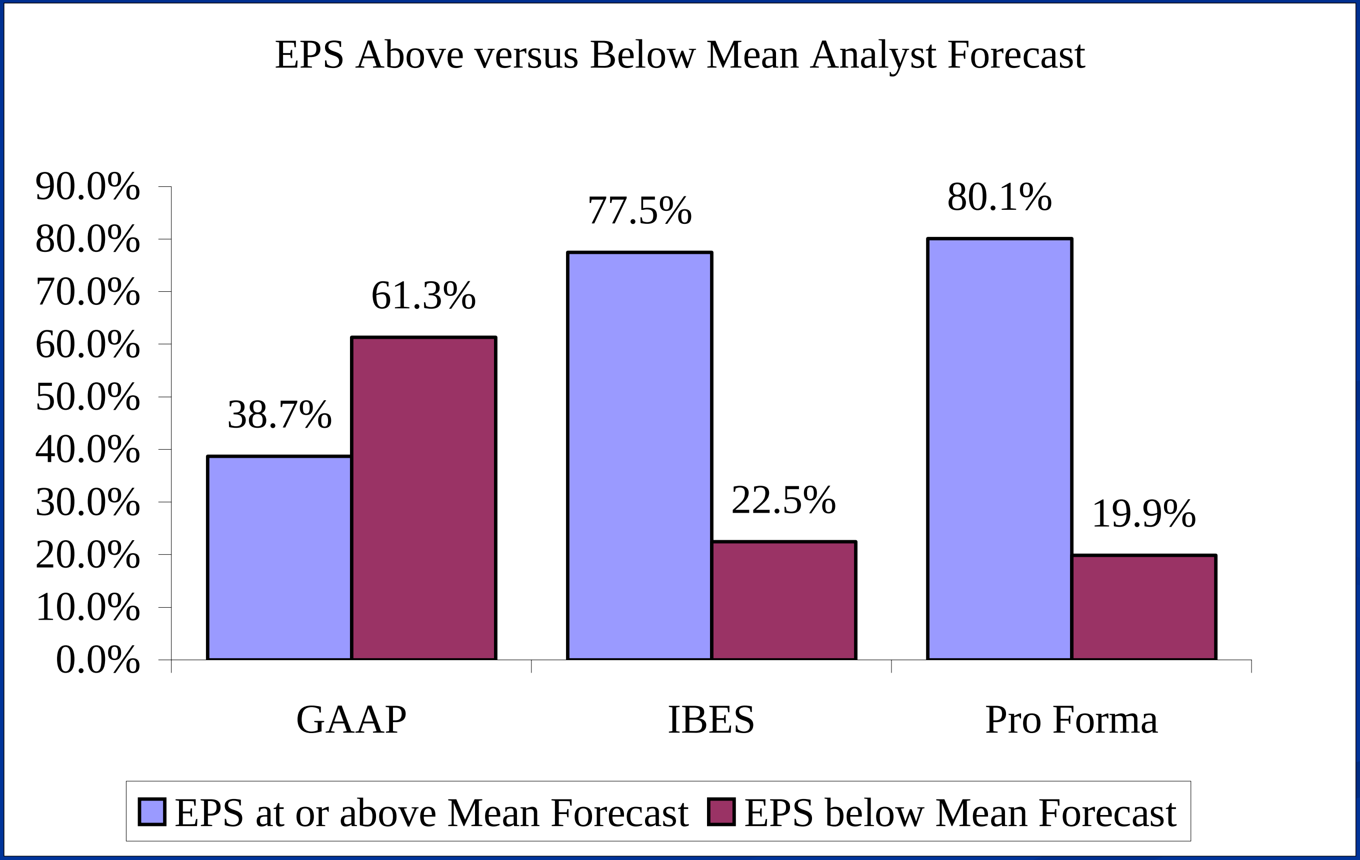
Are proforma higher quality than GAAP?

Source: Bradshaw and Sloan (2002)

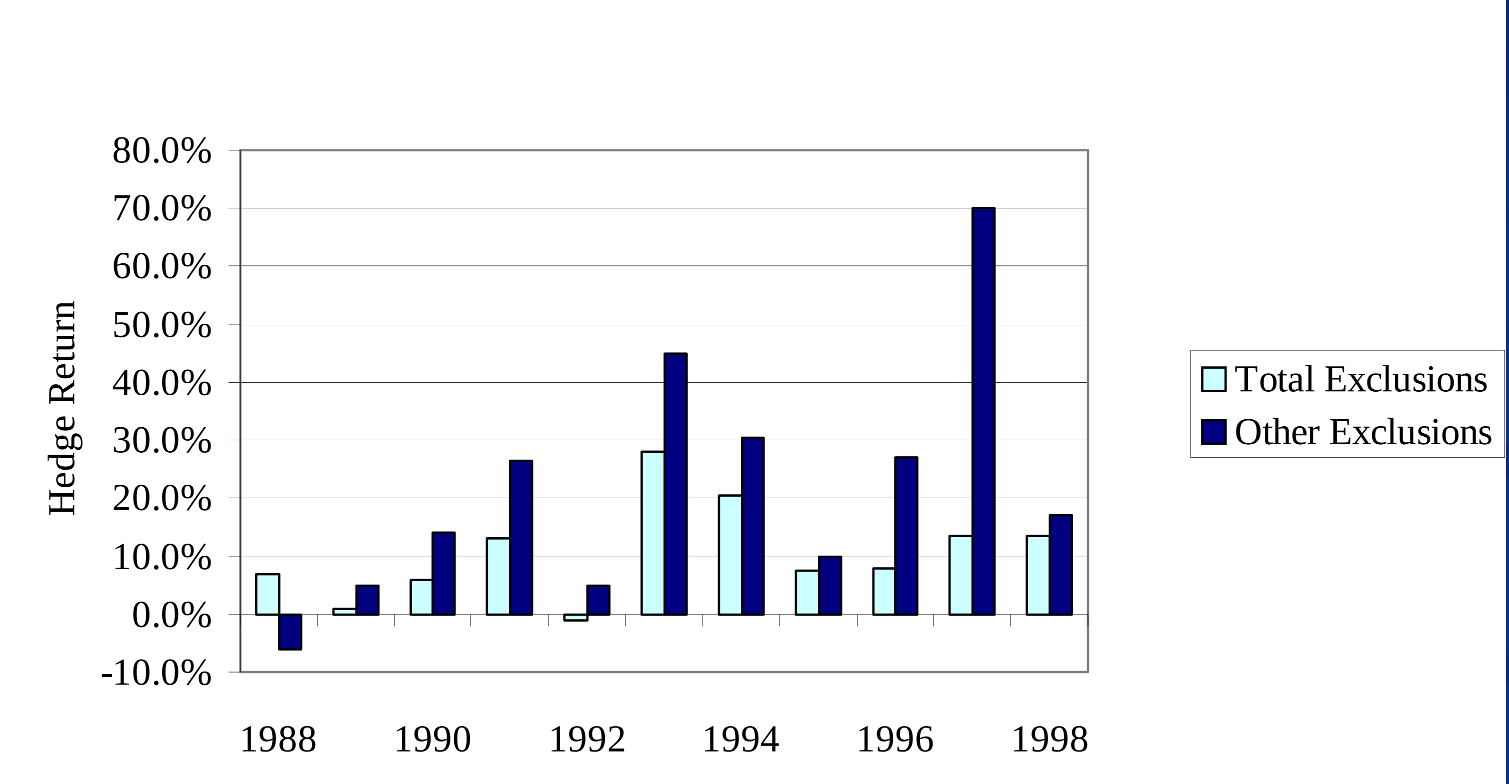
Panel A: Earnings Response Coefficient



Pro forma more likely to beat analyst forecasts



Are items excluded from proforma really transitory?



Source: Doyle, Lundholm and Soliman (2003)

Results suggest that items are not as "transitory" as investors think

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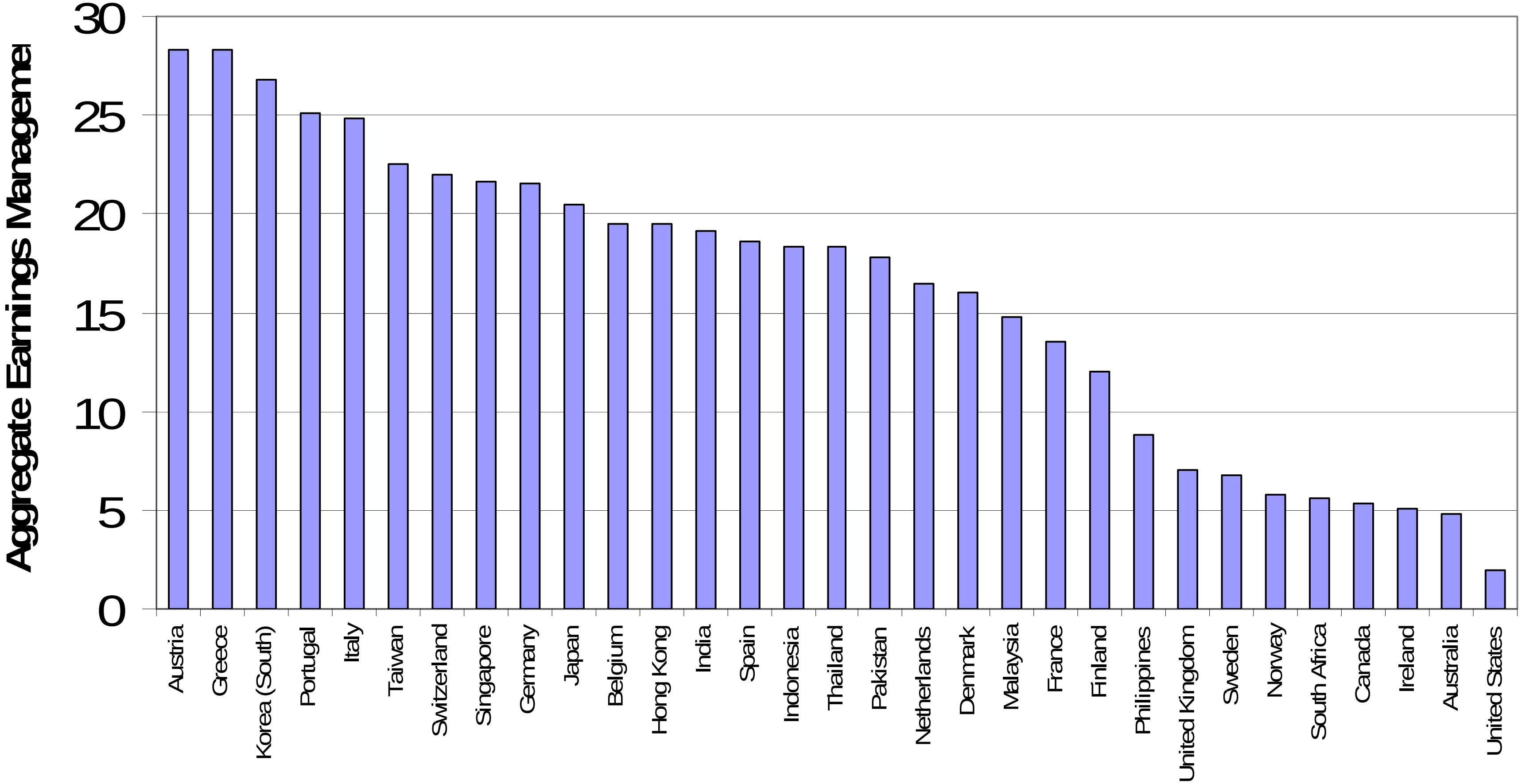
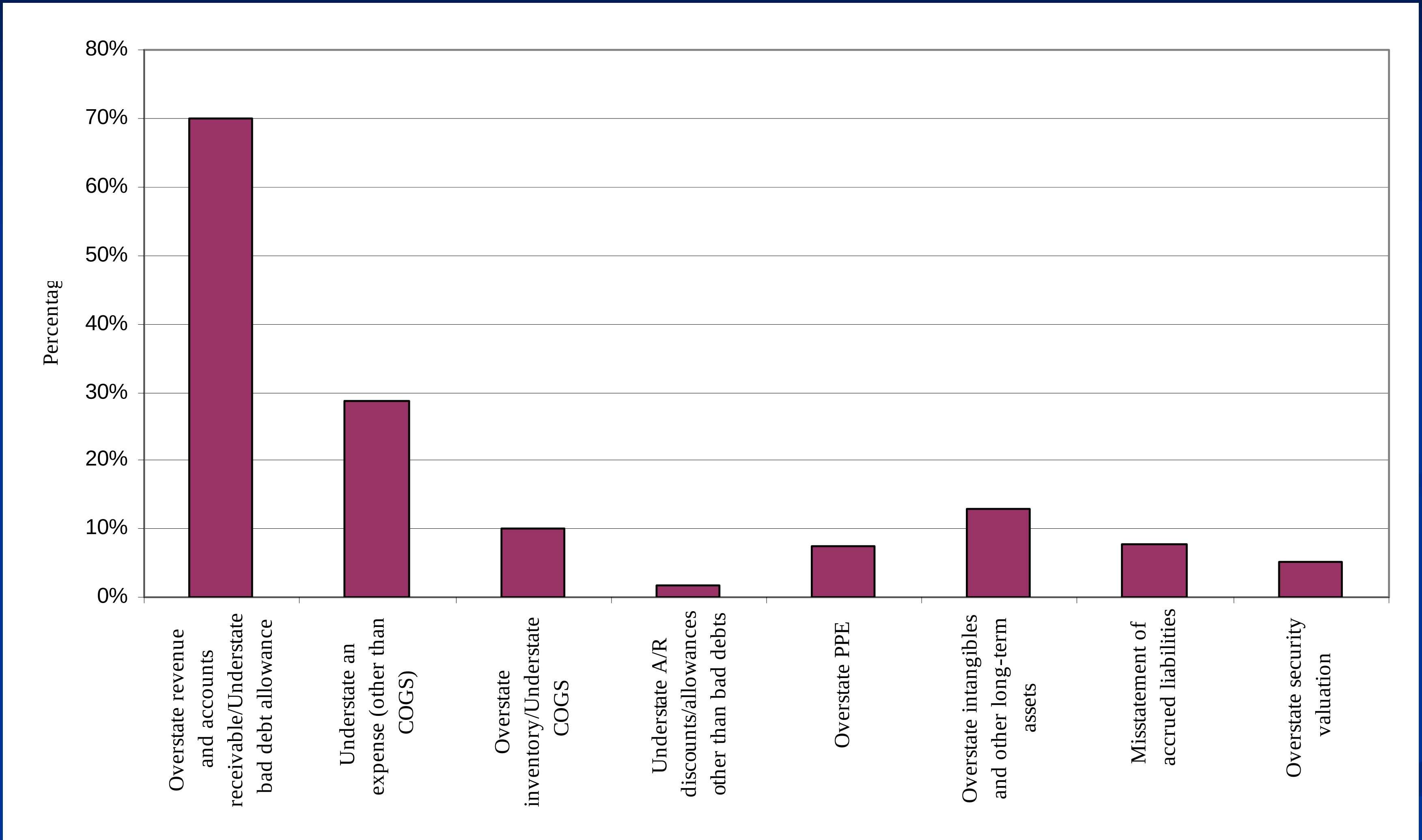
Earnings Management Around the World
(Leuz, Nanda and Wysocki, 2003)



What accounts are managed most?



The sample is collected from the Accounting and Auditing Enforcement Releases from AAER 1 to AAER 1745. The releases that involve manipulations of annual financial statements are identified. The final sample consists of 294 separate firms that had manipulated 426 different accounts. Firms can manipulate more than one account, so the percentages add up to more than 100%.

Incentives for earnings management

- Extensively studied by academics
  - Boost stock price
    - Cheaper to raise new financing, acquire other firms
    - Boost value of stock option grant/insider trade
  - Meet analysts' forecasts
    - Keeps interest in the stock high (affects liquidity)
    - Reputation of management
  - Contractual incentives
    - Earnings based bonuses
    - Debt covenants, unions, etc
  - Regulatory incentives – loan loss reserve, link to taxes

Corporate governance and the opportunity to engage in earnings management

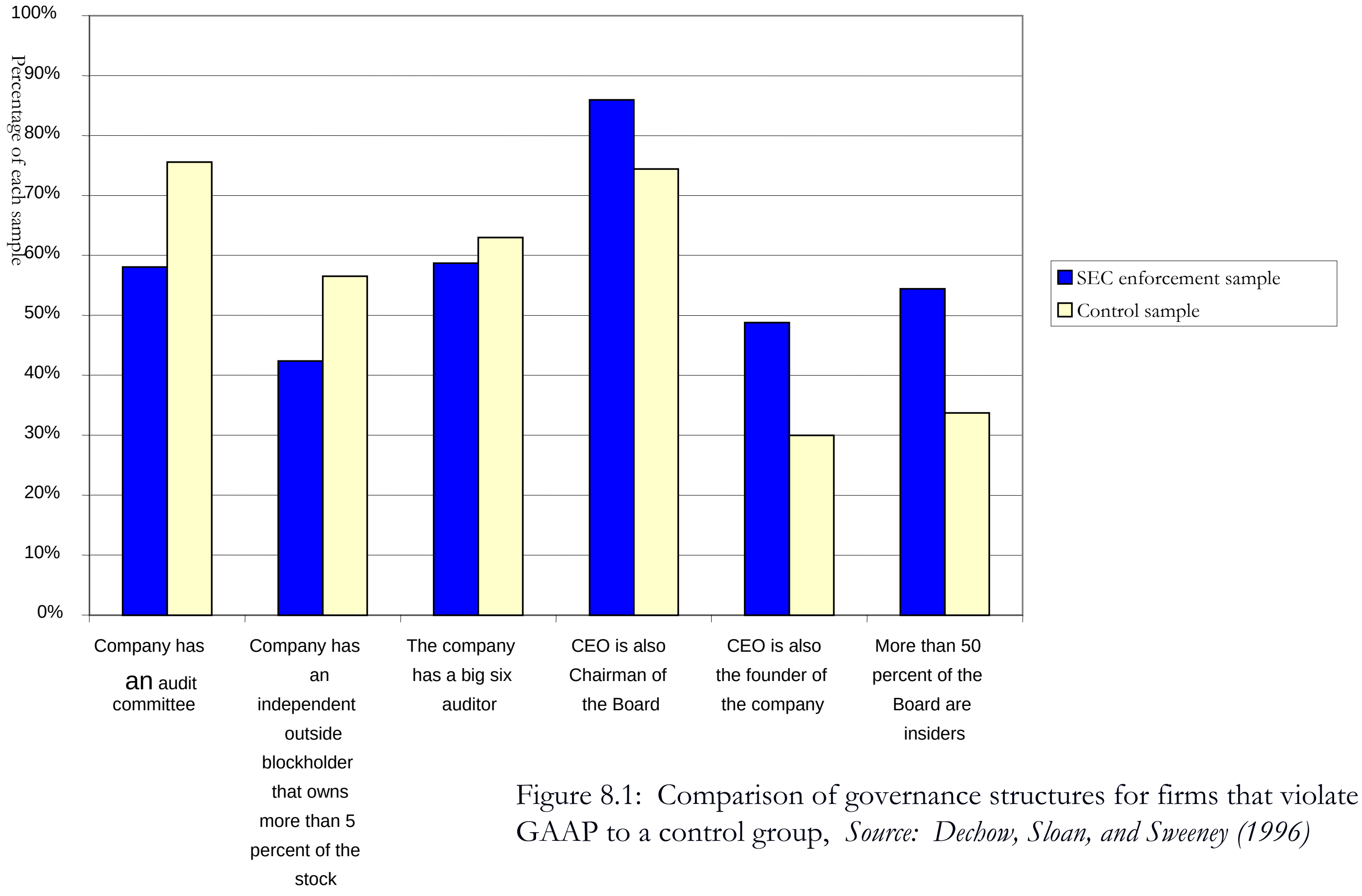


Figure 8.1: Comparison of governance structures for firms that violate GAAP to a control group, *Source: Dechow, Sloan, and Sweeney (1996)*

Earnings quality and audit firm

- Research generally indicates firms report lower discretionary accruals when
  - The auditor has industry expertise
  - The auditor has performed the audit for a longer time period
  - When a big 4-6-8 auditor is used (client selection may drive this)
- But, are not more likely provide qualified opinions on high accrual firms even though more of these firms end up restating earnings and having SEC enforcement actions.
- Audit changes are a red flag
  - Have low accruals prior to switch more normal level of accruals afterwards
  - Auditor too conservative or firms want to boost earnings
  - Firms that switch are more likely to have debt covenant violations, higher leverage, declining earnings (poor performance)

Earnings quality and audit firm

- Does non-audit services reduce earnings quality?
  - Public disclosures on fees only recently disclosed in US
  - Generally a little bit is Okay, too much is bad
  - Tax advisory services may not hurt as much as consulting? - firms are less likely to restate earnings when they provide tax advisory services (Kinney, Palmrose, and Scholz 2003 – private source of data)
  - Frankel, Johnson, Nelson (2003): yes – higher discretionary accruals, more likely to meet analyst forecasts
  - More on this tomorrow!

Do analysts play a monitoring role?

- Not much direct evidence on analysts playing a positive monitoring role in markets
- Unfortunately evidence suggests
  - Do not fully adjust forecasts for the fact that high accrual firms are likely to have a decline in EPS
  - Parrot what management tell them
  - Forecasts start optimistic and end pessimistic (so management can beat the forecast)

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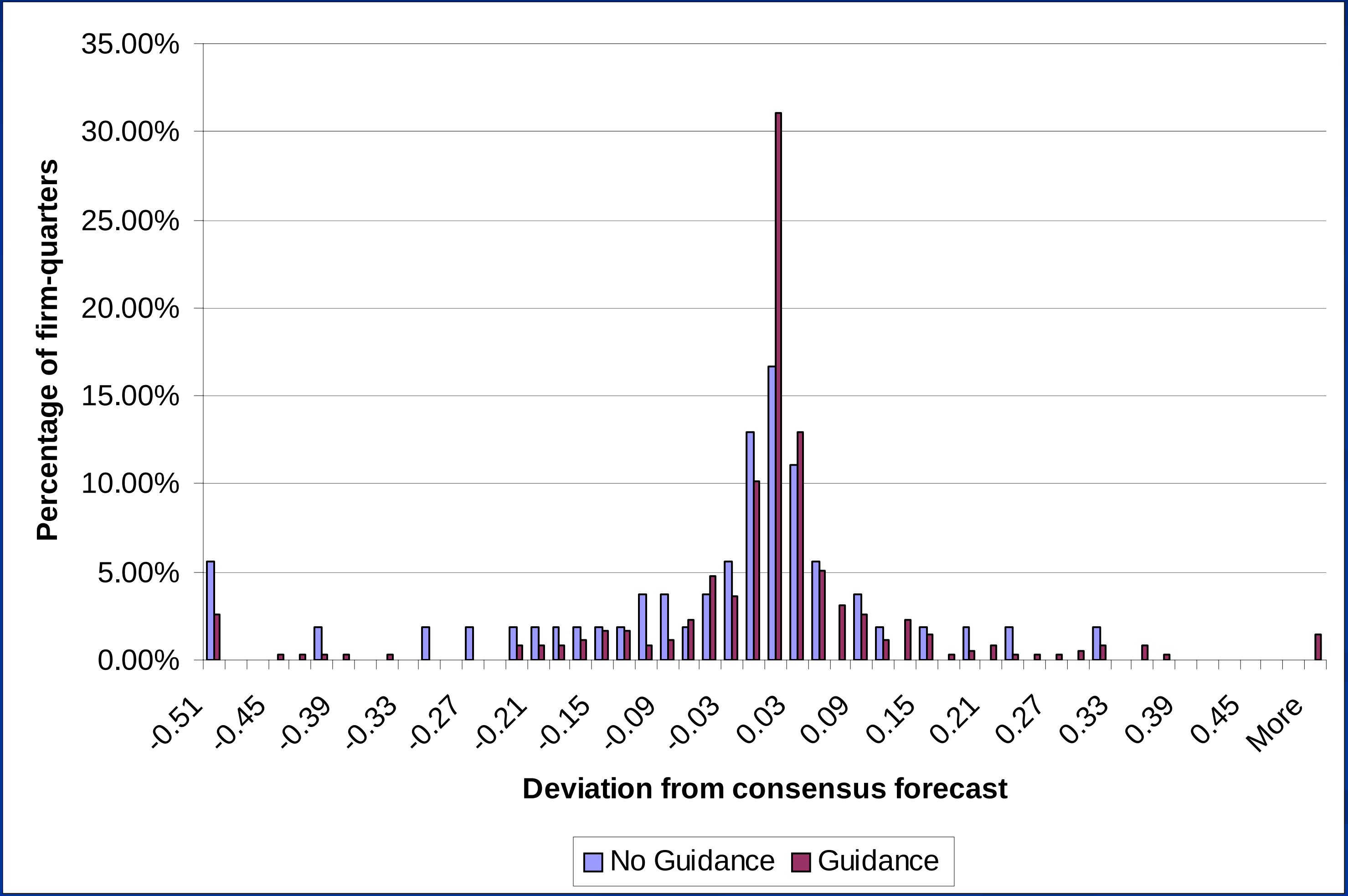
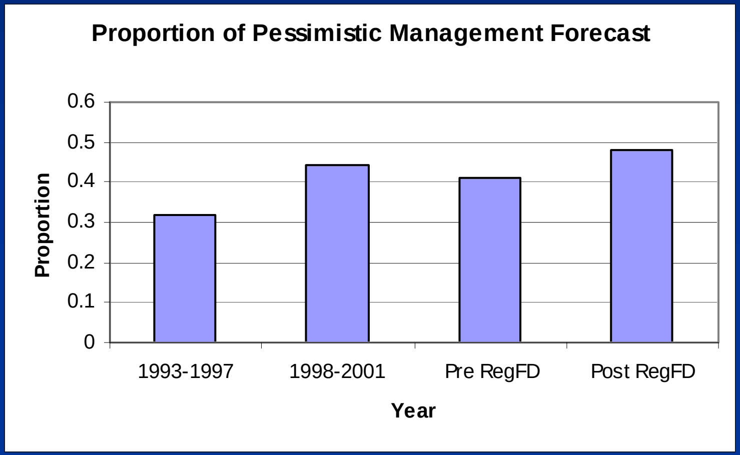
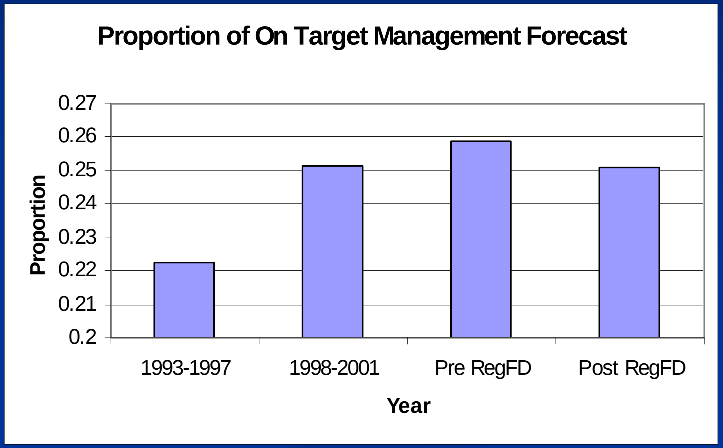
Can voluntary disclosure improve the predictability of earnings?

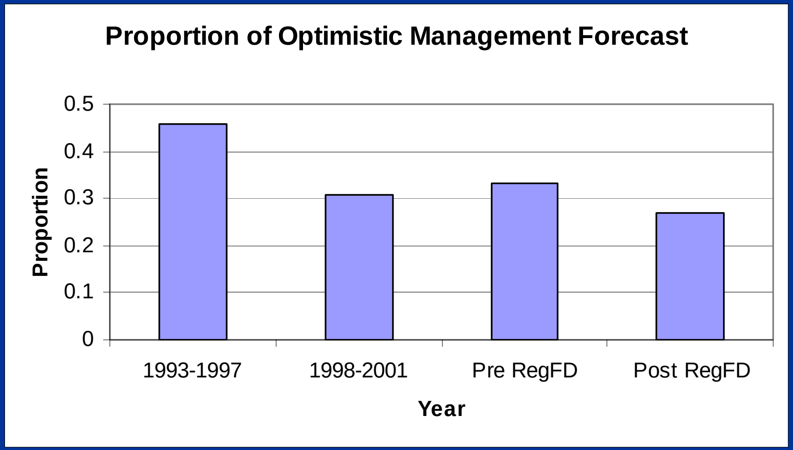


***Source: Hutton (2003)**. Sample consists of NIRI members (pre REG. FD)*

Management guidance tends to be pessimistic (reduce analyst forecast of EPS)

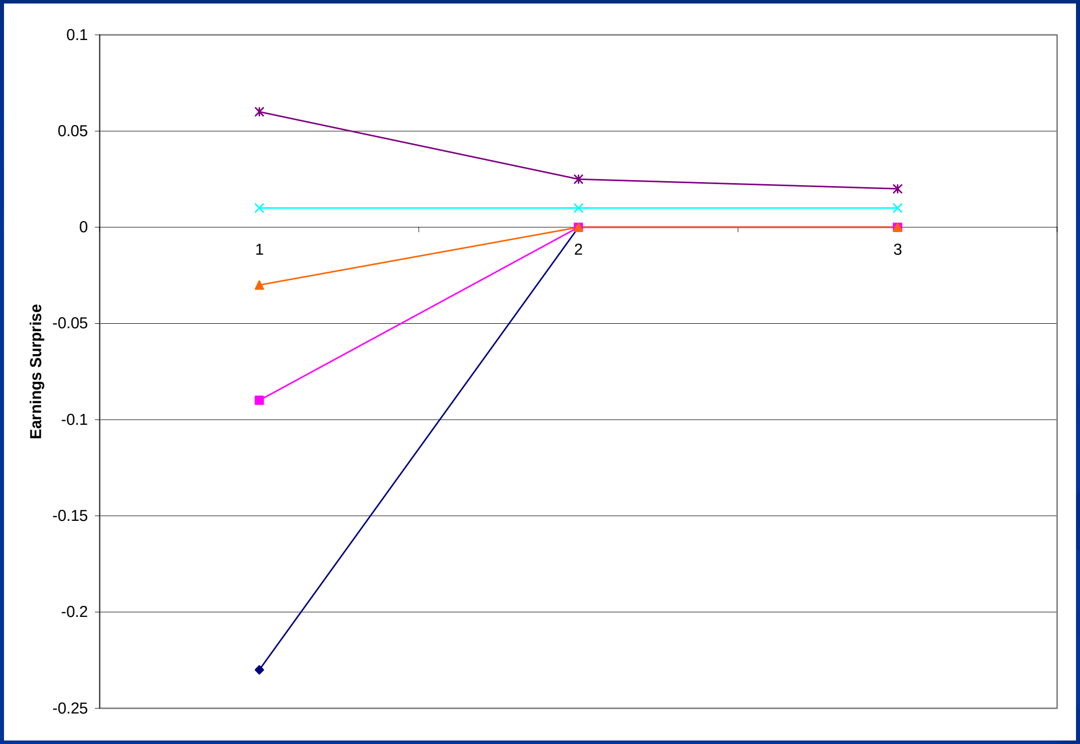






- *Source: Cotter, Tuna, and Wysocki (2003)*
- *A pessimistic forecast of EPS is below actual reported EPS, an optimistic forecast is above actual reported EPS.*

Management forecasts improve analyst forecast accuracy



Earnings Surprise based on:

Analysts' prior forecasts   Managers' forecasts   Analysts' posterior forecasts

- *Source: Feng (2003) The graph plots the median of earnings surprises based on analysts' prior forecasts, managers' forecasts and analysts' posterior updated forecasts for each group.*

Voluntary disclosure and predictability of earnings

- Generally more disclosure is associated with lower costs of capital (advantage of voluntary disclosure)
- Better MD&A disclosure in annual report is associated with lower forecast errors, less dispersion of errors
- Across country results indicates that countries with better disclosure have more accurate analysts
- Firms disclose more when they have financing needs and less when there are higher potential proprietary costs or litigation costs.
- Firms are more likely to disclose bad news early (before earnings announcement).

Do management act in their self interest when providing guidance?

- Evidence that management release bad news before option grants
- Evidence that managers like to release all the bad news early but leak out the good news so they can have positive earnings surprise

Summary

- Provide an analysts' perspective on earnings quality
- Careful financial statement analysis can improve the ability to forecast earnings
- Quality of earnings depends on the nature of the business as well as the integrity and quality of management
- Corporate governance and auditors play a role in improving earnings quality
- Important to understand management's incentives – who are they trying to please? What do they want? Are the overly concerned with stock price and meeting forecasts?
- Recent accounting rules generally have not improved earnings quality from the perspective that we adopt.