

Finding Sustainable Sources of Earnings

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Agenda

1. Overview
2. Factors
3. Model Development
4. Performance
5. Global

Finding Sustainable Sources of Earnings

- ▶ Our aim was to analyze the sources of earnings and measure the sustainability of each of those sources
- ▶ We decomposed the sources of earnings in three different ways:
 - The additive approach, where earnings are composed of cash flows and accruals
 - The multiplicative approach, where a modified Dupont analysis decomposes RNOA into profit margin and asset turnover
 - The exclusions approach, where net income is composed of pro forma earnings plus exclusions

StarMine defines "earnings quality" as the degree to which past earnings are reliable and are likely to persist.

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Our research found that several factors can help predict the persistence of earnings

- ▶ Accruals
 - When earnings have high accruals, they are less likely to persist
- ▶ Cash Flow
 - When earnings have high cash flow, they are more likely to persist
- ▶ Operating Efficiency
 - When earnings result from high margins and good asset utilization, they are more likely to persist
- ▶ Exclusions
 - When pro-forma earnings are similar to GAAP earnings, they are more likely to persist

Overview

Factors

Model Development

Performance

Accruals

Cash Flow

Op Efficiency

Exclusions

Accruals – Basic Accounting Doctrine

- ▶ Accrual accounting doctrine
 - Record revenues (expenses) when they are earned (incurred) – not necessarily when cash is received (paid)
 - ▶ $\text{Earnings} = \text{Cash Flow} + \text{Accruals}$
 - Involves crucial trade-off between value-relevance and reliability
 - ▶ Reliability has implications for earnings persistence
 - ▶ Accruals anomaly is due to the less reliably measured accrual components

A Brief Review of Related Literature

- ▶ Sloan (1996)
 - Focus on current accruals defined by: $(\text{Chg_CA} - \text{Cash}) - (\text{CL} - \text{STD} - \text{TP}) - \text{DEP}$
 - ▶ Where CA is Current Assets, CL = Current Liabilities, STD = Short-Term Debt, TP= Taxes Payable, and DEP = Depreciation
 - Investors do not appear to recognize the lower persistence of accruals relative to cash flow
 - ▶ Hence, they overweight accrual earnings which results in significant security mispricing – high (low) accrual companies underperform (outperform)

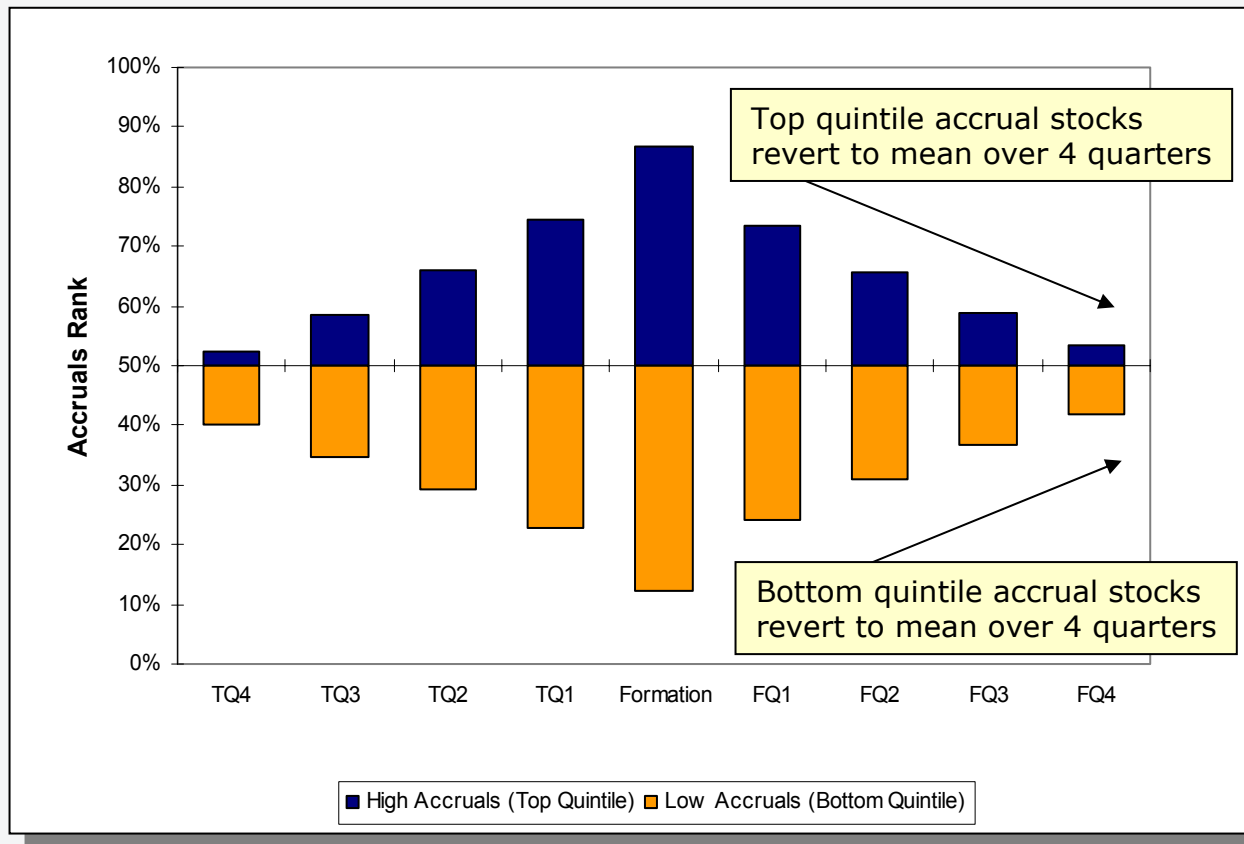
- ▶ Richardson, Sloan, Soliman, & Tuna (2004)
 - Extended the concept to comprehensive total accruals (e.g., net current operating assets, net non-current operating assets and net financial assets)
 - ▶ Focus on current accruals is narrow definition and many non-current accruals are of low reliability (e.g., PP&E, intangibles such as capitalized software development costs, postretirement benefit obligations)
 - ▶ WorldCom is prime example where they overstated capex by over \$3 Billion – managed to grow reported earnings, but piled billions into PP&E on the balance sheet

StarMine's Comprehensive look at Accruals

- ▶ We took a “change in the balance sheet” approach to accruals
 - Net Operating Assets (NOA) = Operating Assets – Operating Liabilities
- ▶ We decomposed accruals into ten sub-factors and analyzed their relative impact on earnings persistence by estimating the following regression:
 - $$\text{OpRNOA}(t+1) = a + b \cdot \text{OpRNOA}(t) + c1 \cdot \text{Chg_Rec} + c2 \cdot \text{Chg_Inv} + c3 \cdot \text{Chg_OtherCA} + c4 \cdot \text{Chg_AP} + c5 \cdot \text{Chg_TaxP} + c5 \cdot \text{Chg_OtherCL} + c6 \cdot \text{ChgPPE} + c7 \cdot \text{Chg_OtherNCA} + c8 \cdot \text{Chg_DefTax} + c10 \cdot \text{Chg_OtherNCL}$$
 - ▶ Where OpRNOA is defined as Operating Income, divided by Net Operating Assets. All accrual accounts also scaled by NOA.
- ▶ Coefficients on accrual accounts with higher absolute magnitude should imply lower reliability (e.g., receivables, inventory, PP&E)
- ▶ Hribar & Collins (2002) note the estimation error inherent in the balance sheet approach versus using the Statement of Cash Flows because of corporate events
 - We validated our coefficients by excluding firms with potential M&A activity and those with extreme accrual values. Coefficients qualitatively similar with and without these firms.

Overview	Factors	Model Development	Performance
	Accruals	Cash Flow	Op Efficiency
		Exclusions	

Accruals tend to reverse over time

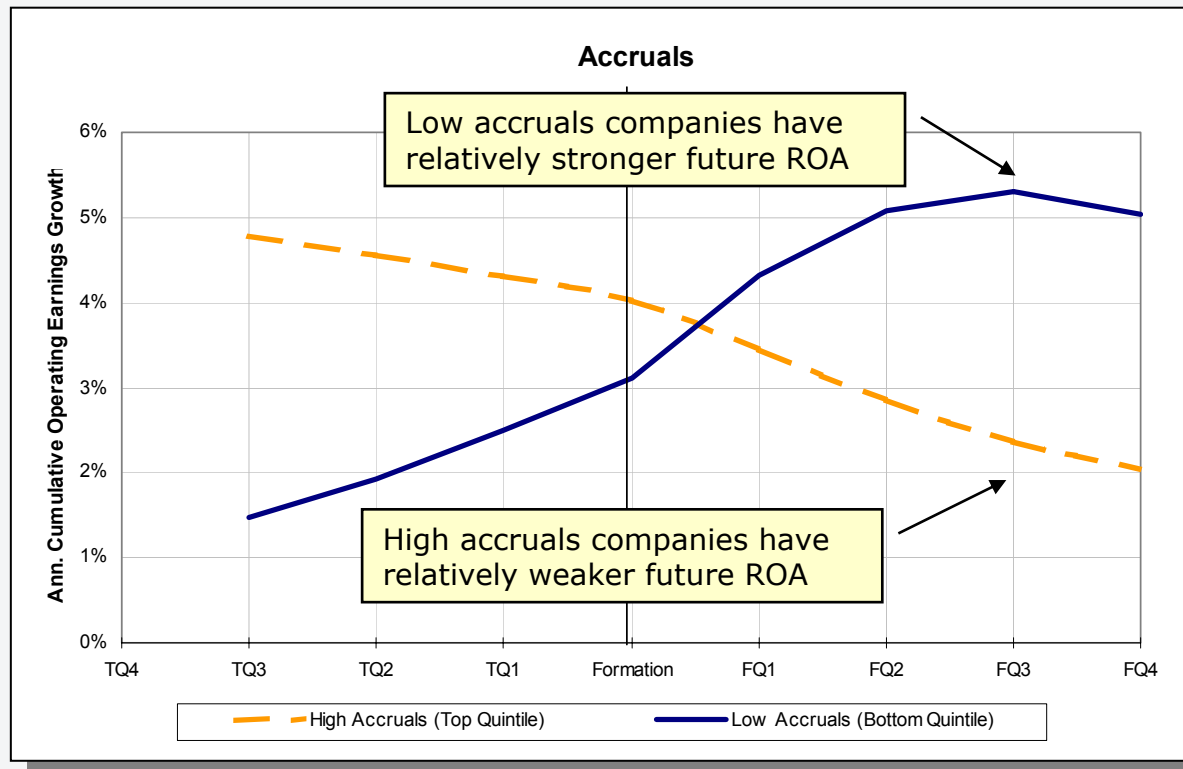


- ▶ On the "formation date", all stocks are ranked according to total accruals
- ▶ Shown are the top quintile (high accruals) and the bottom quintile (low accruals)
- ▶ We look back 4 quarters & forward 4 quarters from the formation date

Companies with high accruals generally haven't had high accruals in the past, nor will they have high accruals in the future

Overview	Factors	Model Development	Performance
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High accruals negatively impact subsequent profitability



- ▶ On the "formation date" we rank all stocks according to total accruals
- ▶ We measure the annualized 1-quarter rate of change in ROA
- ▶ We look back 4 quarters & forward 4 quarters from the formation date

Accruals are an unsustainable source of earnings.

Accruals Example: General Motors

GM had heavy accruals, especially in receivables

Accruals	YoY Change \$m	Change as a % of Assets
Receivables	\$ 57,412.08	28.3%
Inventory	\$ 555.93	0.3%
Other Current Assets	\$ 1,780.92	0.9%
<i>Current Operating Assets</i>	<i>\$ 59,748.93</i>	<i>29.5%</i>
Accounts Payable	\$ 1,720.10	0.8%
Taxes Payable	\$ -	
Other Current Liabilities	\$ 6,595.95	3.3%
<i>Current Operating Liabilities</i>	<i>\$ 8,316.04</i>	<i>4.1%</i>
Net PP&E	\$ 3,979.91	2.0%
Other Noncurrent Assets	\$ (2,230.21)	-1.1%
<i>Noncurrent Operating Assets</i>	<i>\$ 1,749.90</i>	<i>0.9%</i>
Deferred Taxes and Investment Tax Credit	\$ -	
Other Noncurrent Liabilities	\$ 12,754.97	6.3%
<i>Noncurrent Operating Liabilities</i>	<i>\$ 12,754.97</i>	<i>6.3%</i>

- ▶ As of 12/31/03, GM had an Accruals score of 10 out of 100
- ▶ The 10 accrual accounts are evaluated compared to all other companies
- ▶ GM's low accruals score was driven by the receivables change of 28%

Overview

Factors

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Accruals

Cash Flow

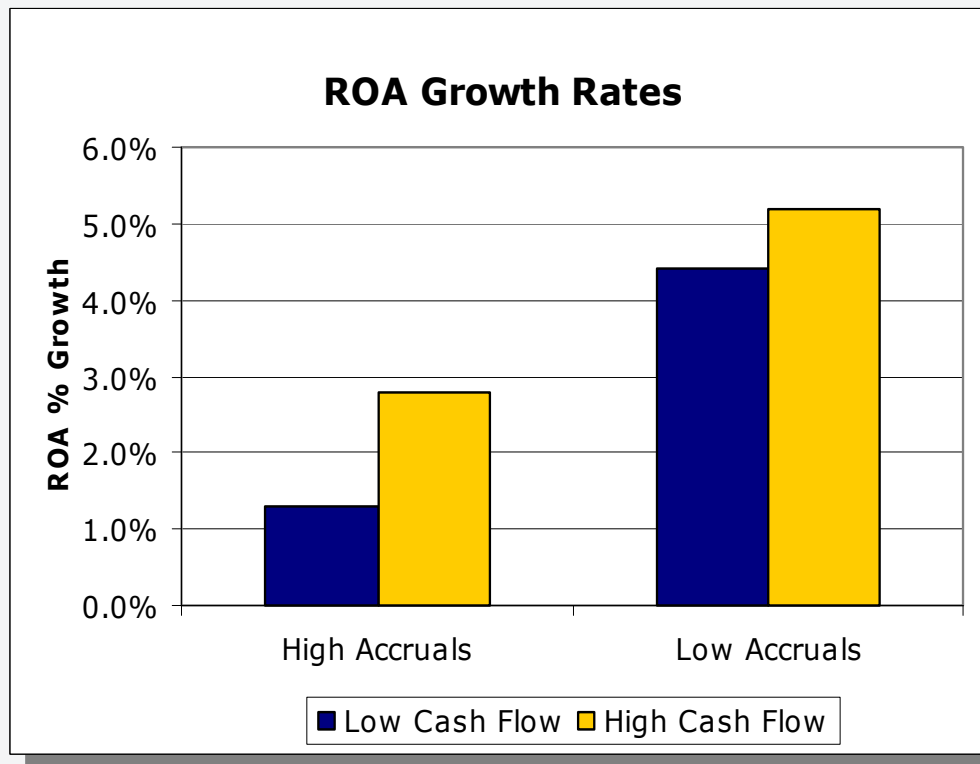
Op Efficiency

Exclusions

A Brief Review of Related Literature

- ▶ Market appears not to recognize lower sustainability of accrual earnings which leads to mispricing of securities (Sloan 1996)
- ▶ Houge & Loughran (2000)
 - Cash flow mispricing is a logical extension of Sloan's findings with accruals
 - Accruals mispricing is distinct from cash flow mispricing where they define cash flows as Operating Cash Flows divided by Total Assets (CFO/TA)

Combining Cash Flow with Accruals provided a stronger indication of earnings sustainability

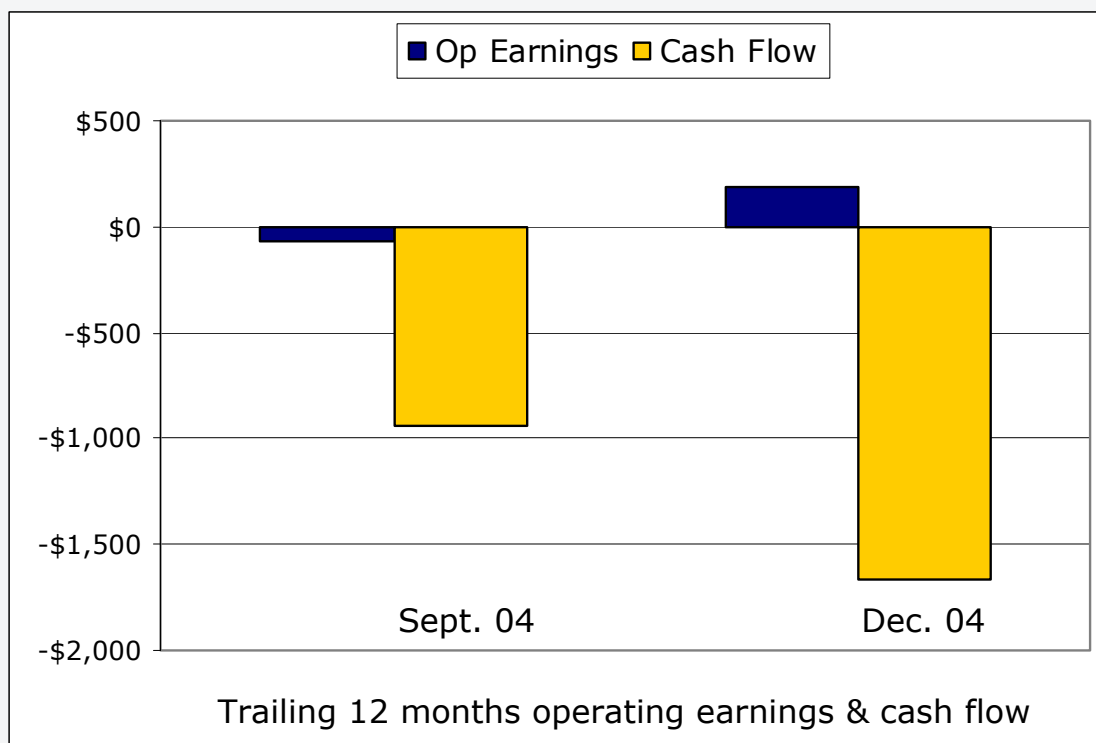


- ▶ Chart shows annualized change in ROA, looking forward four quarters for companies with high/low accruals and high/low cash flow
- ▶ Low accruals stocks in general had higher future profitability than stocks with high accruals
- ▶ Having high cash flow always helped, regardless of the level of accruals

Earnings that are attributable to both low accruals *and* to high cash flow tend to achieve a higher level of profitability.

Cash Flow Example: Wynn Resorts

As of 11/30/04, WYNN had a Cash Flow score of 10



- ▶ We look at the trailing 12 months of cash flow compared to all other companies
- ▶ WYNN's breakeven earnings masked a large negative cash flow
- ▶ And, the negative cash flow persisted into the next quarter

Cash Flow

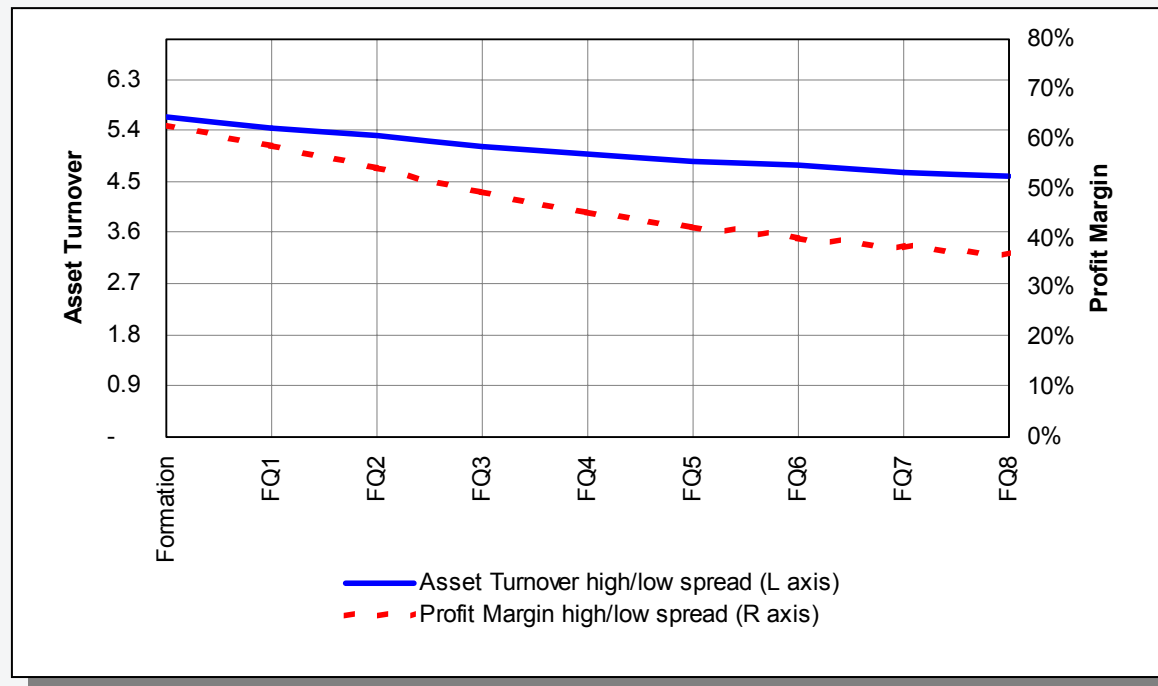
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A Brief Review of Related Literature

- ▶ Soliman (2004)
 - Finds that Dupont analysis is useful in predicting future changes in RNOA
 - ▶ Uses a modified definition of Dupont analysis that abstracts the firm's financing decision (usually captured through a Leverage multiplier in the traditional ROA formulation)
 - ▶ Return on Net Operating Assets (RNOA) =

$$\text{Operating Income} / \text{Sales (PM)} \times \text{Asset Turnover (Sales} / \text{Net Operating Assets)}$$
 - ▶ Profitability is thus derived from two sources: 1) how well the company manages costs and prices (profit margins) and 2) how well the company utilizes its assets to generate sales (asset turnover)
 - Industry-adjustment of components are more relevant than reversion to economy-wide averages
- ▶ Operating efficiency captures the real "economic" component of earnings quality, and is not correlated with the accruals anomaly. Earnings that are derived from high profit margins and good asset turnover are more likely to persist.

Asset turnover is more sustainable than profit margin



- ▶ Graph compares the spread between top decile & bottom decile stocks for both asset turnover and profit margin
- ▶ Both ratios revert towards sector medians over the next eight quarters
- ▶ We measure profit margin & asset turnover on a sector-relative basis

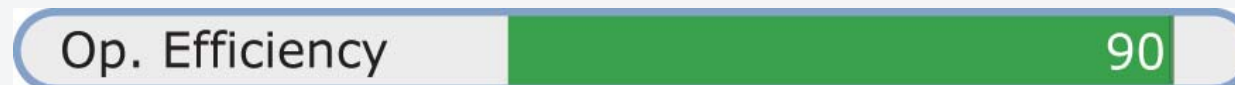
Strong profit margins and asset turnover both contributed to good earnings quality, but we found that asset turnover was a more powerful indicator.

Operating Efficiency Example: Sysco

As of 10/31/04, SY Y had an Operating Efficiency score of 90 out of 100

	SY Y	Consumer Staples Sector
Profit Margin	5.2%	4.5%
Asset Turnover	8.07	3.26
Change in ATO	35%	32%

- ▶ Sysco's profit margin of 5.2% is better than average for the Consumer Staples sector
- ▶ Their asset turnover of 8.07 is more than double the sector average
- ▶ The change in their asset turnover is 35%, which is slightly above the sector average
- ▶ All of these ratios are positive indicators for SY Y earnings quality, and resulted in a score of 90



A Brief Review of Related Literature

- ▶ Doyle, Lundholm, and Soliman (2002)
 - Decompose difference between GAAP earnings and pro forma earnings (i.e. exclusions) into two parts: special items and other exclusions
 - ▶ $GAAP\ Earnings = Pro\ Forma\ Earnings - Special\ Items - Other\ Exclusions$
 - ▶ Special items include restructuring charges, asset write-downs, and losses on sale of assets. Other exclusions may include in-process R&D from acquisition, goodwill amortization, stock compensation expense, equity method gains/losses, legal settlement costs, and operations from stores scheduled to be closed in future
 - ▶ Pro Forma Earnings is defined as Thompson's reported actual earnings per share -- shown to be reasonable proxy for what firm reports in quarterly earnings announcement
 - DLS find that expenses excluded from pro forma earnings are not unimportant or non-recurring
 - Furthermore they find that abnormal returns vary systematically with exclusions – the market seems to be fooled by exclusions from pro forma earnings.

Anecdotal evidence of what gets excluded is not unimportant

THE GREAT ATLANTIC & PACIFIC TEA COMPANY, INC. ANNOUNCES FOURTH QUARTER AND YEAR END RESULTS

*Strong Sales Trend Continues With 4.8% Comparable Store Sales Gains
Strategic Initiatives Program on Track*

MONTVALE, NJ--MARCH 16, 1999--The Great Atlantic & Pacific Tea Company, Inc. (NYSE: GAP) ("A&P") announced today fourth quarter and year end results for fiscal 1998 ended February 27, 1999.

Sales for the twelve-week quarter were \$2.43 billion versus \$2.50 billion for the corresponding thirteen-week quarter last year. Comparable store sales increased by 4.8%.

For the quarter, the Company posted a net loss of \$88.6 million or **\$2.31** per share, versus the prior year's net income of \$13.4 million, or \$.35 per share. Excluding the impact of charges related to strategic initiatives under the previously announced "Project Great Renewal" and operating losses of the stores identified for closure, the Company would have earned \$7.3 million or **\$.19** per share.

* Example extracted from Russell Lundholm's presentation for StarMine's Client Conference .

Cash Flow implications for Other Exclusions is almost as Large as Pro Forma Earnings

Panel B: Components of Total Exclusions: Future CFO = $\gamma_0 + \gamma_1$ Pro Forma Earnings_t + γ_2 Special Items_t + γ_3 Other Exclusions_t + γ_4 Sales Growth_t + γ_5 Accruals_t + υ_t

<i>Dependent Variable</i>	<i>Intercept</i>	<i>Pro Forma Earnings</i>	<i>Special Items</i>	<i>Other Exclusions</i>	<i>Sales Growth</i>	<i>Accruals</i>	<i>Adj. R²</i>
<i>CFO_SUM1</i>	0.053 (25.63)	2.795 (49.81)	0.199 (0.86)	-2.185 (-25.34)	-0.117 (-5.94)	-0.491 (-16.19)	0.374
<i>CFO_SUM2</i>	0.119 (32.34)	5.473 (49.83)	0.309 (0.63)	-4.263 (-22.49)	-0.122 (-2.06)	-0.971 (-15.11)	0.387
<i>CFO_SUM3</i>	0.196 (48.89)	8.184 (56.61)	0.781 (0.84)	-6.422 (-13.56)	-0.040 (-0.43)	-1.454 (-13.47)	0.358

A dollar of pro forma earnings predicts 8.184 dollars of future CFO over next 3 years.

BUT a dollar of Other Exclusions predicts -6.422 dollars of future CFO.

*Source: Russell Lundholm's presentation for StarMine Client Conference.

Evidence of systematic abnormal returns to exclusions suggests market is fooled

Return Interval = $\gamma_0 + \gamma_1$ Earnings Surprise_t + γ_2 Special Items_t + γ_3 Other Exclusions_t + γ_4 Book to Market_t + γ_5 Log of MVE_t + γ_6 Firm Beta_t + γ_7 Accruals_t + γ_8 Momentum_t + υ_t

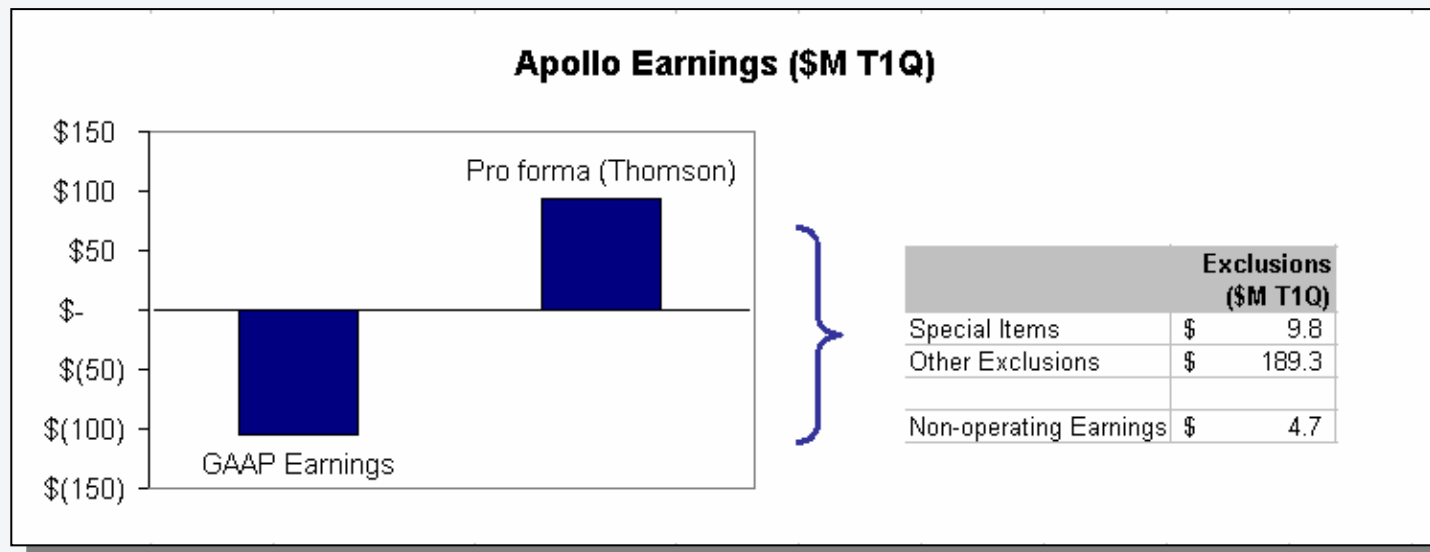
<i>Dependent Variable</i>	<i>Intercept</i>	<i>Earnings Surprise</i>	<i>Special Items</i>	<i>Other Exclusions</i>	<i>Book to Market</i>	<i>Log of MVE</i>	<i>Firm Beta (β_i)</i>	<i>Accruals</i>	<i>Momentum</i>	<i>Adj. R²</i>
<i>RMA_3DAY</i>	-0.008 (-2.62)	0.049 (24.29)	-0.005 (-2.10)	-0.019 (-8.12)	0.002 (1.18)	0.001 (0.59)	-0.001 (-0.47)	-0.003 (-2.39)	-0.008 (-3.40)	0.0499
<i>RMA_YR1</i>	-0.070 (-2.38)	0.132 (6.91)	-0.004 (-0.27)	-0.083 (-6.67)	0.049 (1.12)	-0.059 (-1.02)	0.103 (1.74)	-0.101 (-5.63)	0.104 (4.03)	0.0478
<i>RMA_YR2</i>	-0.006 (-0.08)	0.203 (7.29)	-0.032 (-0.69)	-0.149 (-9.10)	0.065 (0.62)	-0.119 (-1.45)	0.219 (1.53)	-0.171 (-6.37)	0.029 (0.74)	0.0365
<i>RMA_YR3</i>	0.026 (0.19)	0.290 (4.71)	0.004 (0.07)	-0.312 (-9.04)	0.122 (0.72)	-0.171 (-1.92)	0.319 (2.38)	-0.200 (-4.04)	-0.039 (-1.42)	0.0261

The coefficients are returns to a portfolio that is long in the highest decile of the variable and short in the lowest decile. Returns are not annualized.

*Source: Russell Lundholm's presentation for StarMine Client Conference.

Exclusions Example: Apollo Group

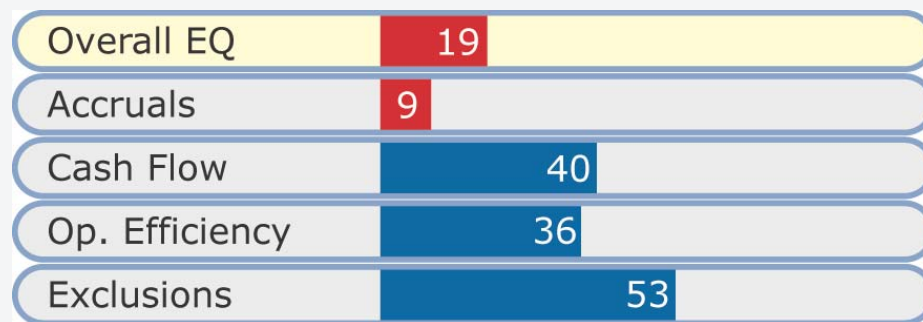
As of 12/31/04, APOL's Exclusions score was 2 out of 100



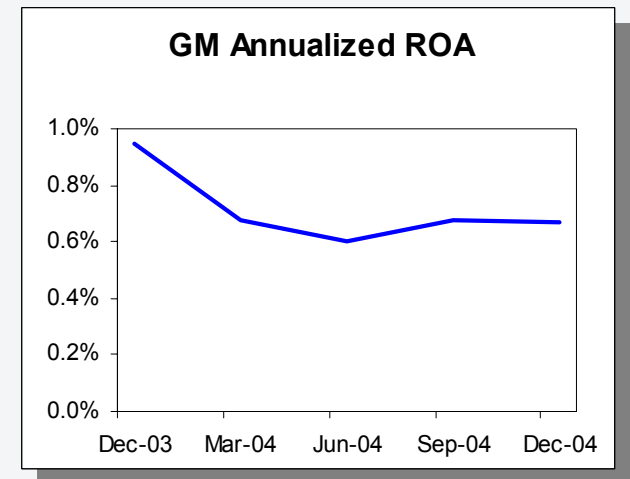
- ▶ GAAP vs. pro forma has the following differences:
 - \$9.8M in Special Items (legal settlement)
 - \$189.3M in Other Exclusions (stock option expenses)

Earnings Quality Example: General Motors

GM's total score of 19 (12/31/03) reflected a weak accruals score

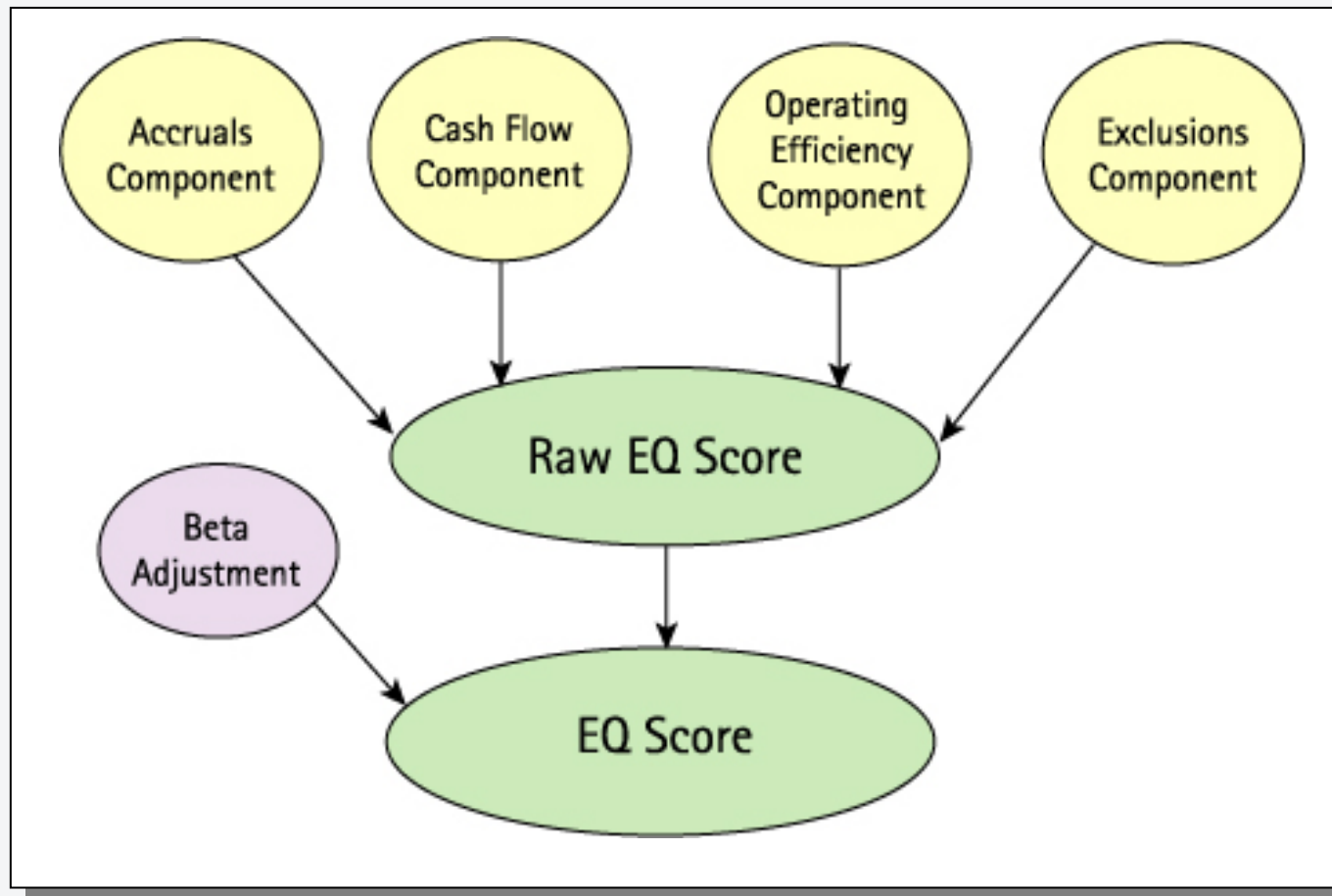


- ▶ GM's low accruals score was driven by their increase in receivables due to the big trend in 2003 for 0% financing
- ▶ Their cash flow for the quarter ending 9/30/2003 was -\$5 billion
- ▶ GM had strong profit margins but weak asset turnover
- ▶ They had minimal exclusions



- ▶ GM's ROA was 0.95% as of 12/31/03 and dropped to 0.67% a year later at 12/31/04

Once we have weighted our components and arrived at a Raw EQ score, we make a beta adjustment



Performing a beta-adjustment on the Earnings Quality scores results in more consistent performance

- ▶ Low EQ companies tend to have high betas, introducing a bias: our model corrects for this bias with the beta adjustment
 - Betas are estimated using the Vasicek (1973) method that adjusts each stock's beta according to the level of sampling error associated with each estimate. Estimates with larger variances will be adjusted further toward the mean in a Bayesian process.
- ▶ We account for the beta bias by ranking each stock relative to other stocks with similar betas

Other EQ models don't work at all in up markets; StarMine EQ works well in both up and down markets.

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StarMine EQ Model Development

- ▶ We used strict in and out of sample testing
- ▶ We performed checks across sectors, holding periods, market conditions, capitalization ranges, growth/value styles
- ▶ We used Compustat Point-in-Time data to build our model
 - This is the *only* fundamental data source which enables analysis using then-available data, without look-ahead bias or survivorship bias
- ▶ Our objective was to build a model which identifies companies with persistent earnings (not predicting stock returns) using straightforward, intuitive measures

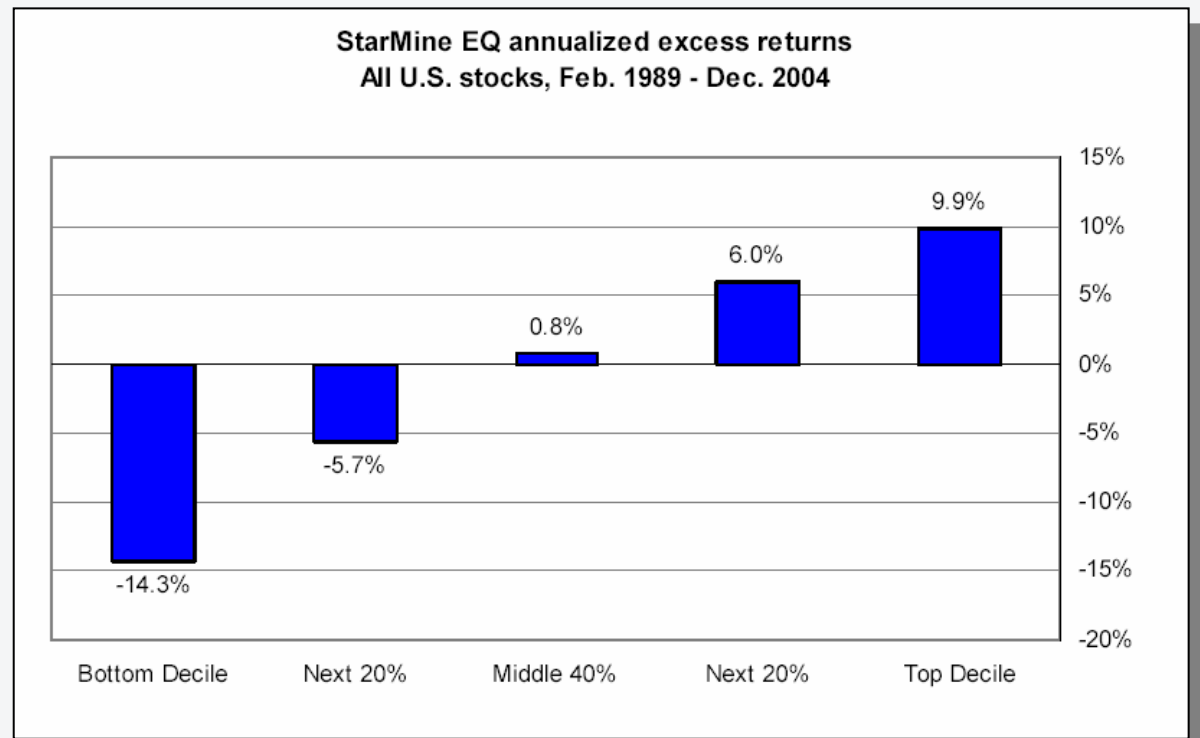
StarMine EQ has significantly increased explanatory power compared to models that try to specifically predict price.

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StarMine EQ performance summary

- ▶ Top-decile stocks annually outperformed bottom-decile stocks by 24% over the past 15 years
- ▶ Strong performance across market caps, styles, sectors, and holding periods



All U.S. stocks, Feb-89 to Dec-04, annualized monthly returns, rebalanced monthly, no transaction costs

StarMine EQ Performance vs. Basic Total Accruals model*

February 1989 - December 2004

- ▶ StarMine EQ's information coefficient is 0.07 compared to .002 for the Total Accruals model
- ▶ StarMine's IC is strong for both large and small cap stocks
- ▶ StarMine EQ has an IC of 0.066 in up markets, compared to (0.006) for the Total Accruals model

	StarMine EQ			Total Accruals			StarMine Value Added		
	Decile Spread	I.C.	% months positive IC	Decile Spread	I.C.	% months positive IC	Decile Spread	I.C.	% months positive IC
Overall	24.2%	0.070	96%	23.9%	0.002	50%	0.3%	0.068	46%
Large Cap	10.2%	0.031	67%	8.1%	0.021	57%	2.1%	0.010	10%
Small Cap	18.8%	0.048	84%	16.9%	0.023	57%	1.8%	0.025	28%
117 up months	33.3%	0.066	93%	29.5%	(0.006)	44%	3.9%	0.073	50%
74 down months	9.9%	0.077	100%	18.3%	0.018	59%	-8.4%	0.058	41%

*Total Accruals is our benchmark model, where total accruals is defined as the year over year change in net operating assets.

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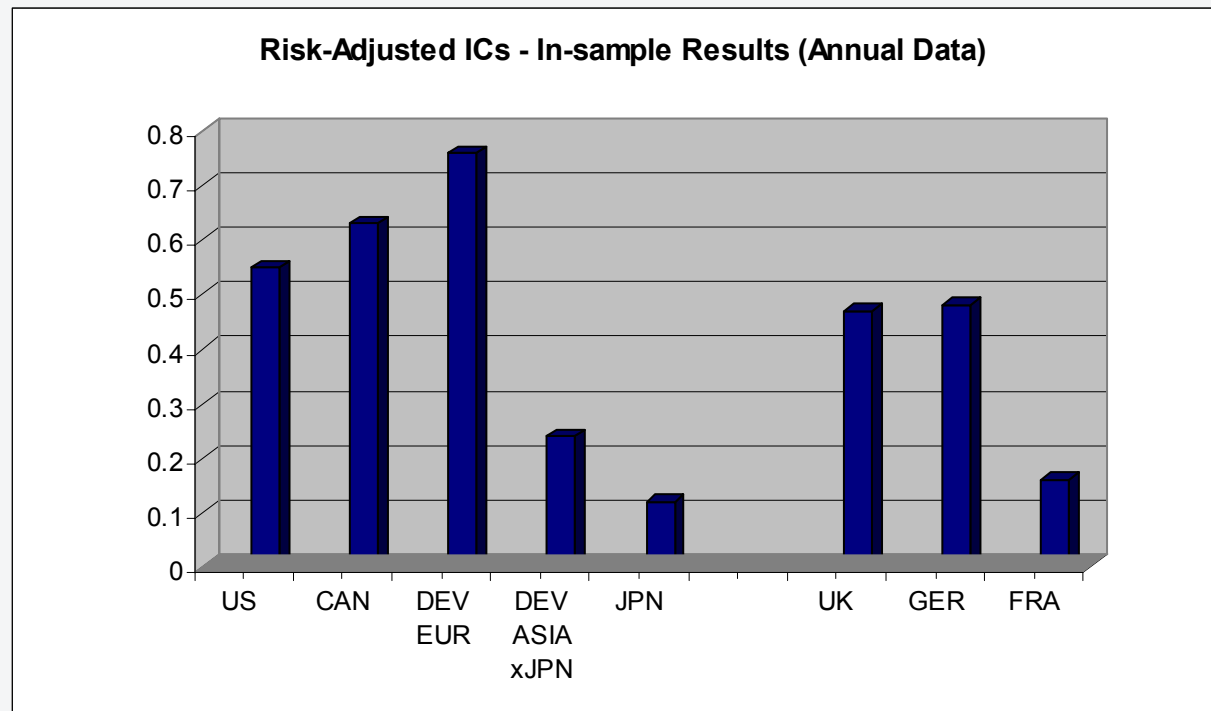
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Measuring Earnings Quality Globally

- ▶ Most of academic research has focused on U.S. companies
 - But the concept applies to all countries...
 - Accrual anomaly may be more likely to be present in countries with common law legal tradition and accounting systems which allow free use of accrual doctrine
 - We have excluded “exclusions” for international since based on differences between U.S. GAAP and Pro Forma

- ▶ We have extended our US model directly to international markets to see if the US results are a local manifestation of a global phenomenon
 - ▶ We include the US as a yardstick for comparison – limited to annual data
 - ▶ All results on based on “raw” EQ scores with no beta neutralization, and are limited to our in-sample testing period (e.g., 7 years from 1991-2004 period with randomly selected stocks for each period)

Results look promising for countries outside the US - Developed Europe and Canada show robust performance while Japan is the weak spot



Global Regions or Countries	Average Monthly IC	Risk-adj. IC
US*	0.044	0.55
Canada*	0.069	0.63
Developed Europe	0.036	0.76
Developed Asia ex-JPN	0.023	0.24
Japan	0.015	0.12
UK	0.036	0.47
Germany	0.045	0.48
France	0.070	0.16

* Both US and Canada limited to annual data for comparison.

Limiting Downside Risk during the IFRS Transition for Earnings Quality

- ▶ After the changeover, IFRS accounting will be more like US accounting, but will still allow for subjectivity in accounting
 - Accrual factors will still make sense for stock selection
- ▶ However, the transition period is the difficult part
 - Pre- and post IFRS balance sheet comparisons will be difficult in comparing FY 2005 to FY 2004
 - In particular, non-current accruals are likely to be most affected with revaluation bases for PP&E and changes in defined benefit pensions for listed UK companies – however current accruals should experience minimal impact
 - Cash flow measures should be relatively unaffected
 - Operating efficiency measures, however, will be subject to volatility and noise
- ▶ Recommended solution:
 - Focus on current accruals and cash flow during the transition

Finding Sustainable Sources of Earnings

Karla Atas, Director of Research



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StarMine US EQ Overall Performance

February 1989 - December 2004

StarMine EQ	91 to 100	71 to 90	31 to 70	11 to 30	1 to 10	Decile Spread	Information Coefficient
	Top Decile	Next 20%	Middle 40%	Next 20%	Bottom Decile		
Feb. 1989 - Dec. 1989	21.3%	10.3%	0.6%	-8.8%	-22.0%	43.3%	0.105
1990	15.8%	9.1%	0.0%	-9.3%	-13.3%	29.1%	0.083
1991	3.4%	0.1%	-1.0%	4.8%	-9.2%	12.6%	0.061
1992	4.5%	4.3%	1.4%	-4.3%	-10.9%	15.4%	0.067
1993	-0.6%	3.6%	3.2%	-2.8%	-13.3%	12.7%	0.049
1994	11.4%	10.0%	3.6%	-10.5%	-21.6%	32.9%	0.086
1995	14.1%	5.9%	-1.1%	-3.0%	-15.0%	29.1%	0.077
1996	6.9%	8.2%	2.6%	-6.0%	-20.0%	26.9%	0.073
1997	14.7%	13.8%	1.2%	-11.1%	-21.4%	36.1%	0.089
1998	15.7%	7.3%	-0.8%	-8.9%	-9.9%	25.6%	0.071
1999	6.8%	-8.3%	-5.1%	12.7%	7.7%	-0.8%	0.030
2000	9.9%	21.5%	3.9%	-22.3%	-18.4%	28.4%	0.076
2001	16.6%	11.1%	2.2%	-12.8%	-23.5%	40.1%	0.070
2002	13.3%	16.3%	-1.4%	-17.0%	-5.1%	18.4%	0.079
2003	3.9%	-13.1%	1.9%	19.1%	-16.3%	20.2%	0.043
2004	4.4%	0.6%	2.2%	-0.8%	-13.5%	17.9%	0.068
Overall (annualized)	9.9%	6.0%	0.8%	-5.7%	-14.3%	24.2%	0.070

StarMine US EQ Performance by Capitalization

February 1989 - December 2004

Capitalization Group	Top Decile	Next 20%	Middle 40%	Next 20%	Bottom Decile	Decile Spread	Information Coefficient
All Cap	9.9%	6.0%	0.8%	-5.7%	-14.3%	24.2%	0.070
Large Cap (top 1000)	6.4%	3.4%	-0.2%	-4.7%	-3.9%	10.3%	0.031
Small Cap (next 2000)	9.3%	5.5%	0.6%	-6.7%	-9.5%	18.8%	0.048
Micro Cap (below top 3000)	11.4%	8.5%	1.6%	-7.6%	-18.1%	29.5%	0.067
Cap-Neutral	10.5%	6.9%	1.0%	-6.9%	-13.6%	23.6%	0.056

StarMine US EQ Large Cap Performance

February 1989 - December 2004

	Top Decile	Next 20%	Middle 40%	Next 20%	Bottom Decile	Decile Spread	Information Coefficient
Feb. 1989 - Dec. 1989	12.3%	5.9%	-2.2%	-2.2%	-9.8%	22.1%	0.052
1990	8.9%	4.9%	1.9%	-8.2%	-9.3%	18.2%	0.058
1991	9.8%	-1.0%	-0.5%	-4.8%	4.2%	5.6%	0.025
1992	3.7%	3.2%	0.8%	-3.8%	-5.4%	9.1%	0.029
1993	4.6%	0.6%	-1.5%	-0.9%	2.0%	2.6%	0.010
1994	11.5%	0.7%	0.0%	-3.7%	-4.7%	16.2%	0.035
1995	8.7%	6.5%	-0.7%	-5.5%	-7.1%	15.8%	0.051
1996	6.8%	1.8%	0.1%	-4.7%	-1.3%	8.1%	0.034
1997	5.2%	2.0%	0.5%	-4.1%	-3.1%	8.3%	0.032
1998	13.1%	3.2%	-2.1%	-5.5%	-0.4%	13.5%	0.045
1999	24.6%	-0.9%	-6.2%	-4.2%	13.4%	11.3%	0.022
2000	-10.0%	8.4%	8.7%	-10.8%	-23.7%	13.7%	0.028
2001	-2.2%	6.1%	5.6%	-12.1%	-11.2%	9.0%	0.033
2002	1.9%	8.4%	0.4%	-5.4%	-9.8%	11.7%	0.032
2003	10.1%	-0.7%	-2.4%	-2.6%	6.9%	3.2%	0.012
2004	0.0%	2.5%	-3.0%	1.4%	4.8%	-4.8%	(0.005)
Overall (annualized)	6.4%	3.2%	0.0%	-4.9%	-3.8%	10.2%	0.031

StarMine US EQ Small Cap Performance

February 1989 - December 2004

	Top Decile	Next 20%	Middle 40%	Next 20%	Bottom Decile	Decile Spread	Information Coefficient
Feb. 1989 - Dec. 1989	26.5%	6.3%	-2.1%	-8.6%	-8.9%	35.5%	0.072
1990	16.4%	9.9%	-0.1%	-9.8%	-13.0%	29.4%	0.075
1991	8.3%	0.0%	-1.9%	-2.7%	5.1%	3.2%	0.042
1992	16.9%	3.7%	1.4%	-7.3%	-12.7%	29.7%	0.068
1993	1.8%	3.7%	2.7%	-1.7%	-15.3%	17.1%	0.041
1994	10.3%	8.8%	3.2%	-9.6%	-17.8%	28.1%	0.072
1995	12.6%	3.9%	-1.3%	-5.7%	-2.9%	15.6%	0.050
1996	5.4%	6.3%	0.5%	-3.4%	-12.5%	17.9%	0.040
1997	11.2%	11.9%	1.5%	-14.1%	-9.1%	20.3%	0.065
1998	13.7%	5.1%	1.4%	-9.7%	-8.1%	21.8%	0.052
1999	10.5%	-5.2%	-6.1%	2.8%	20.5%	-10.0%	0.010
2000	-5.1%	12.9%	5.9%	-8.2%	-30.7%	25.6%	0.056
2001	8.6%	6.9%	3.5%	-9.2%	-19.7%	28.3%	0.043
2002	9.3%	14.8%	3.2%	-16.7%	-14.2%	23.5%	0.058
2003	4.1%	-2.3%	-1.7%	1.0%	5.3%	-1.3%	(0.004)
2004	4.1%	3.0%	-0.2%	-1.6%	-6.4%	10.4%	0.021
Overall (annualized)	9.3%	5.5%	0.6%	-6.7%	-9.5%	18.8%	0.048

StarMine US EQ Performance by Style and Sector

February 1989 - December 2004

Style	Top Decile	Next 20%	Middle 40%	Next 20%	Bottom Decile	Decile Spread	Information Coefficient
Value	10.7%	7.1%	-0.3%	-7.6%	-8.5%	19.2%	0.049
Growth	9.4%	3.1%	0.2%	-4.5%	-8.5%	17.9%	0.051

	Top Decile	Next 20%	Middle 40%	Next 20%	Bottom Decile	Decile Spread	Information Coefficient
<i>Sector:</i>							
Consumer Discretionary	15.2%	8.8%	0.2%	-5.8%	-21.5%	36.7%	0.080
Consumer Staples	14.2%	8.0%	1.5%	-8.3%	-21.1%	35.3%	0.086
Energy	4.3%	0.0%	4.3%	-4.7%	-12.8%	17.1%	0.062
Financials	6.3%	2.9%	0.0%	-2.6%	-8.2%	14.5%	0.042
Health Care	12.0%	9.8%	-2.5%	-3.9%	-16.2%	28.2%	0.074
Industrials	10.6%	6.4%	0.9%	-5.9%	-17.6%	28.2%	0.074
Information Technology	9.1%	5.5%	3.5%	-8.7%	-17.9%	27.1%	0.070
Materials	4.0%	4.2%	-0.1%	-3.9%	-9.3%	13.3%	0.074
Telecommunication Service	6.4%	5.9%	-0.7%	-9.1%	-8.9%	15.3%	0.053
Utilities	-0.2%	-0.1%	1.6%	0.2%	-8.5%	8.3%	0.018
<i>Sector Neutral</i>	9.8%	5.9%	0.9%	-5.2%	-14.9%	24.7%	0.067

StarMine US EQ Performance by Holding Period

February 1989 - December 2004

Holding Period (days)	Top Decile	Bottom Decile	Decile Spread	Information Coefficient
30	9.9%	-14.3%	24.2%	0.070
60	9.7%	-13.0%	22.7%	0.088
90	9.5%	-12.8%	22.4%	0.108
180	7.9%	-10.9%	18.8%	0.135
360	6.2%	-9.5%	15.7%	0.154

Turnover of StarMine EQ decile portfolios

Rebalancing Frequency (days)	Top Decile Turnover	Bottom Decile Turnover	Autocorrelation
30	17.2%	17.2%	0.94
90	37.0%	36.5%	0.82
180	53.0%	53.2%	0.67