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'GENERATING ALPHA FROM EVENT DRIVEN INVESTING'

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Managing Director, Quantamental Research

9 October 2013

Topics

- **Introduction to Event Driven Investing**
- **Event Driven Investing in Practice**
  - Activist Investing
  - CEO/CFO Turnover
  - Dividend Policy Changes
  - Complicated Firms
  - Performance Summary

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Introduction To Event Driven Investing

- **Characteristics/Types**
  - Endogenous (CEO Departure)/Exogenous (Activist activity)
  - Long/Short Horizon
  - Company/Group/Market Level
  - Tail / Non-linear in nature
  - Not necessarily related to underlying financials
- **Why are Event Signals Intriguing?**
  - Differentiated ideas that can be added systematically into an investment and monitoring process
- **What are some of the concerns?**
  - These signals may occur infrequently leading to lower breadth
  - The context of the event can impact the directional quality of the performance impact on the company

Event Driven Investing - Methodology

- **Traditional Event Study**
  - Track Cumulative Average Abnormal Return performance around list of events
  - Informative view of return impact on the period surrounding events
  - Compresses relative time aspect between events
  - Unattainable returns due to difficulty in allocating investable funds across events without perfect foresight

- **Portfolio Approach**
  - Establish process to incorporate events into investable portfolios
  - Maintains integrity of relative time with respect to different events
  - Attainable returns with periodic portfolio formation, but it represents a high bar when responding more slowly to events between rebalances

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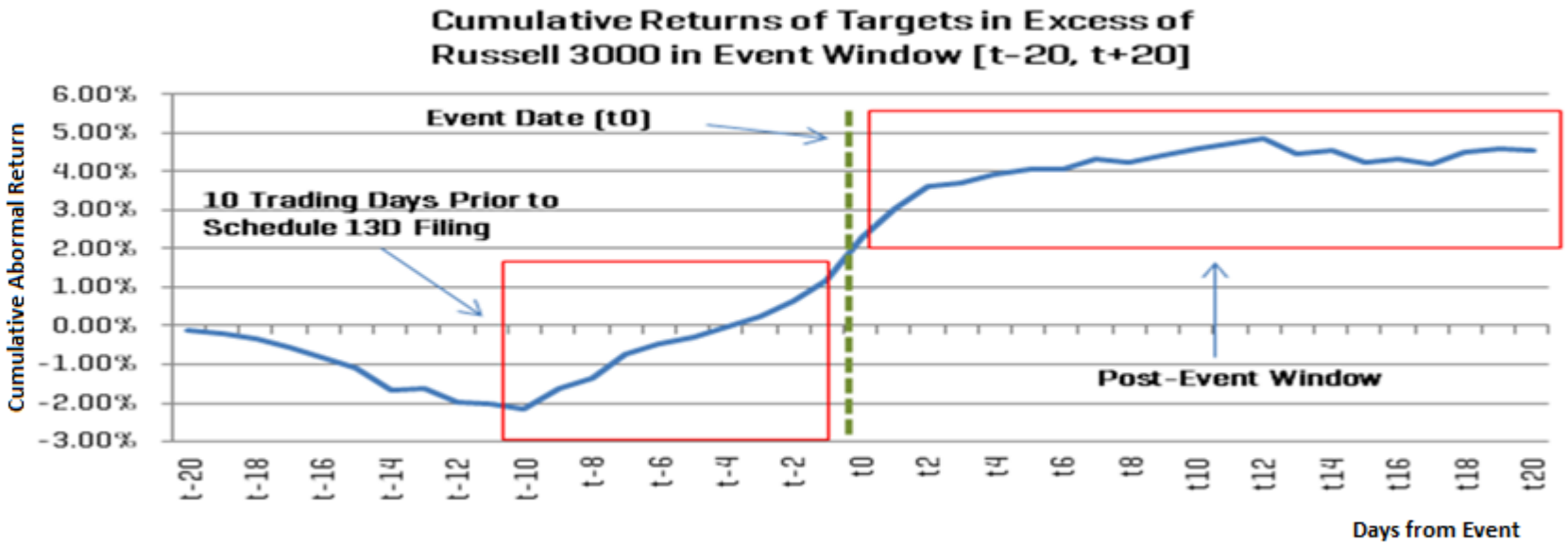
Investor Activism

- **Activist Investing**
  - A number of highly publicized events where an investor takes a substantial equity stake in a company in hopes of influencing its future policies (e.g. Icahn's stake in Netflix)
  - Share prices of the targeted firms increase, some by substantial amounts, after disclosure
  - According to Hedge Fund Research
    - Activist index returned 380 bps annually vs. Global Hedge Fund index 25 bps annually in past 3 years
    - AUM in activist funds has doubled to $65B in 2012 from $32B in 2008
      - Activist funds operate as a syndicate
  - Given this backdrop, we examined whether
    - Money can potentially be made by holding these targeted firms
    - Are the returns to this portfolio subsumed by well-known anomalies such as value and momentum?
    - What are the commonalities of the targeted firms?
    - What changes activists make in the targeted firms?

Investor Activism – Event Study

- **Market-adjusted returns of 460bps and 340bps in the event and post-event window**
- **Market, value, size, industry adjusted returns of 270bps in the post-event window**

Figure 1: Cumulative Returns of Targets in Event Window [Trading Days]
Russell 3000 Index, 2003 –2012



Source S&P Capital IQ Quantamental Research
Past performance is not a guarantee of future results

All Data as of 30 April 2013

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Investor Activism – Long-Horizon Returns Analysis

- **Average monthly excess returns ranging from 88bps to 181bps after adjusting for market, value, size, and price momentum.**

Exhibit 2: Long-Horizon Returns Analysis – Calendar Time

Russell 3000 Index, 2003 –2012

	col1	col2	col3	col4	col5	col6	col7
Horizon (Months)	Average Monthly Excess Returns	Sensitivity to Market Risk Premium	Sensitivity to Value Risk Premium	Sensitivity to Size Risk Premium	Sensitivity to Price Momentum Risk Premium	Monthly Hit Ratio	Average Monthly Count
3	1.81% ***	1.12 ***	0.12	0.29	0.05	68.5% **	28
6	1.14% ***	1.18 ***	0.03	0.25 *	-0.02	66.7% ***	54
12	1.18% ***	1.09 ***	-0.18	0.42 ***	-0.18 *	65.7% ***	106
18	0.96% ***	1.12 ***	-0.06	0.32 ***	-0.11	64.8% ***	153
24	0.88% ***	1.14 ***	-0.03	0.32 ***	-0.10	65.7% ***	196

***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively

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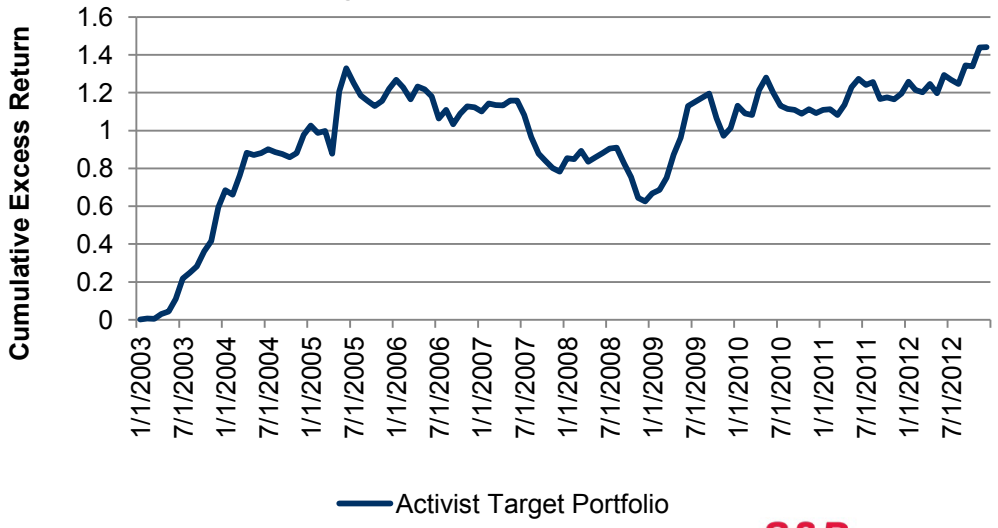
Follow The Smart Money – Portfolio Strategy

- **Monthly portfolio of all companies that been identified as Activist targets via 13D filings over the past 6 months**
- **An activist portfolio focuses on small companies (Sz) that haven't grown (HG), aren't expected to grow (AE), have not been run effectively (CE/EQ) that would be strong candidates to turn around**

	2003-2012
Avg 1Mo Ex-Return	0.81%
Return T-Stat	2.42
Annualized IR	0.76
Hit Rate	55%
Avg Count	53

Russell 3000

Activist Target Portfolio	*Correlation*	*T-Stat*
Analyst Expectations	-0.17	-1.87
Capital Efficiency	-0.30	-3.36
Earnings Quality	-0.34	-3.96
Historical Growth	-0.17	-1.86
Price Momentum	-0.13	-1.46
Size	0.31	3.57
Valuation	0.05	0.59
Volatility	0.34	3.93



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Investor Activism – Summary

- **There are opportunities for both short- and long-horizon excess returns after controlling for market, value, size, momentum and industry.**

- **Investor Activism occurs frequently enough to consider incorporating into an investment process**

- **The returns of a portfolio that tracks activist targets produces a positive return that is significant and weakly correlated to major investment themes**

- **Please see additional details in our paper from March –** *Follow the Smart Money: Riding the Coattails of Activist Investors.*

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CEO / CFO Turnover

- **Following a period of poor stock price performance, pressures often build that lead to a company replacing key executives.**

- **The announcement of CEO changes are often met with pomp and circumstance, but do these changes in management signify a legitimate turning point in stock performance? Or, do they just represent short term measures for shareholder appeasement?**

- **We explore the return impact of CEO/CFO turnover in the US and Europe both as a long term event study and as a portfolio formation strategy.**

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CEO Turnover Mark Turning Point In Performance

- **Performance leading up to departure is weak and following departure is strong**

Industry and Beta Adjusted Returns Pre-Post CEO Departure

Russell 3000 Index, 1988-2013

	12Mon Prior	12Mon After	24Mon After	36Mon After
Average	-14.94%	4.43%	3.38%	6.10%
Return T-stat	-13.69	4.75	2.51	3.43
Hit Rate	36.55%	51.49%	49.39%	49.04%
Hit P-value	0.00%	0.34%	1.11%	0.79%

BMI Europe Index, 1995-2013

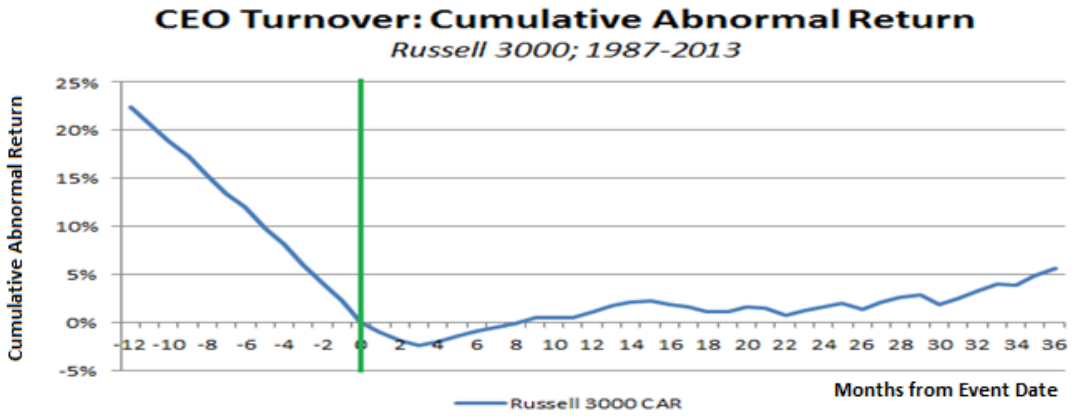
	12Mon Prior	12Mon After	24Mon After	36Mon After
Average	-5.32%	6.21%	12.02%	16.17%
Return T-stat	-4.67	5.23	5.89	6.01
Hit Rate	40.64%	53.94%	52.86%	50.40%
Hit P-value	0.00%	0.03%	0.22%	2.05%

BMI Asia Index, 1994-2013

	12Mon Prior	12Mon After	24Mon After	36Mon After
Average	-1.42%	7.19%	14.20%	24.38%
Return T-stat	-0.94	4.88	6.42	8.12
Hit Rate	43.14%	52.29%	54.78%	55.93%
Hit P-value	0.00%	0.94%	0.03%	0.00%

CEO Turnover Mark Turning Point In Performance

- **Performance the year leading up to departure is weak**
- **The return begins to recover in the first 12 months following the departure and continues over the following 36 months**



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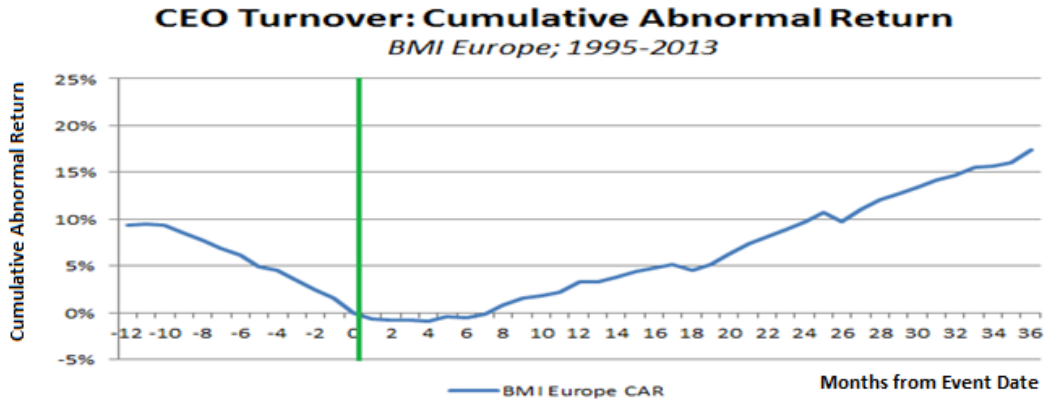
CEO Turnover Mark Turning Point In Performance

- **Performance the year leading up to departure is weak**
- **The return improves significantly in the first 12 months following the departure and shows strong persistence <u>particularly in Europe and Asia</u>**



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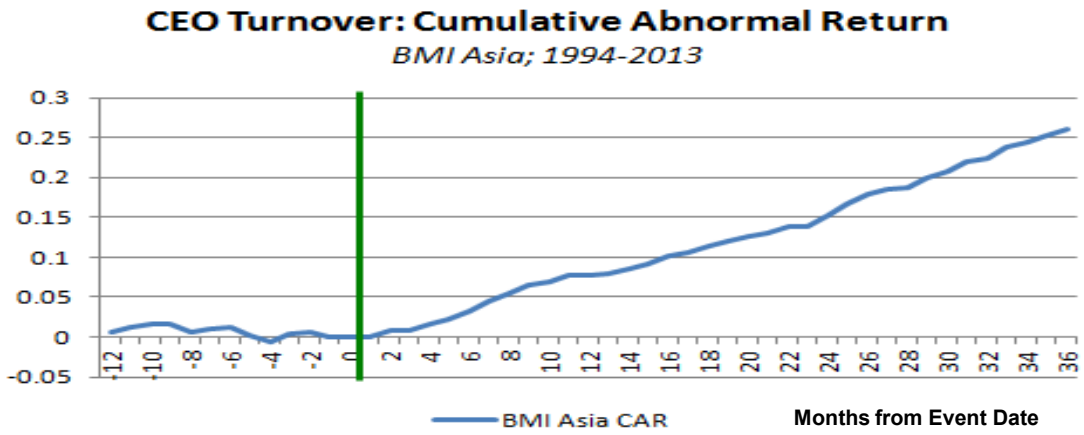

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Hit P-value	0.00%	0.94%	0.03%	0.00%

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Is This Explained By Mean Reversion?

- **Is the subsequent performance of a CEO change simply attributable to a snapback following a period of the stock price weakness that led to the turnover?**

Mean Reversion Test for US CEO and CFO Turnovers, 1987-2011

$$r_{t+k} - \mu = \beta(k) \sum_{j=1}^{k} (r_{t-j} - \mu) + \varepsilon_t$$

Return Horizon (k-month)	CEO Turnover		CFO Turnover	
	β	β T-stat	β	β T-stat
3-Month	0.028	1.88	-0.013	-0.96
6-Month	0.041	2.87	0.017	1.29
9-Month	-0.009	-0.62	-0.016	-1.16
12-Month	-0.022	-1.73	-0.022	-1.86
24-Month	-0.003	-0.30	-0.022	-2.11
36-Month	-0.013	-1.38	-0.024	-2.80

Source: S&P Capital IQ Quantamental Research
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Change Is good – Portfolio Strategy

- **We form a portfolio of all companies that had a CEO change in both of the US and Europe**
  - We lag 6 months to allow time for the new leadership to identify and implement initial changes and follow them for the next year
- **Given the probable state of affairs leading up to the CEO departure, we see that the portfolio includes exposure to companies that have been poorly managed (CE/EQ) who have had trouble growing (HG) whose returns have been more volatile (Vol)**

	Russell 3000		BMI Europe		BMI Asia	
CEO	*Corr*	*T-stat*	*Corr*	*T-Stat*	*Corr*	*T-Stat*
Analyst	0.01	0.24	-0.08	-1.09	-0.13	-1.63
CapEff	-0.15	-2.69	-0.17	-2.3	-0.56	-9.28
Quality	-0.11	-1.84	-0.24	-3.4	-0.39	-5.74
HistGrw	-0.08	-1.41	-0.13	-1.75	-0.02	-0.26
Pmom	-0.05	-0.92	-0.1	-1.33	-0.22	-3.03
Size	0.23	4.19	0.3	4.17	0.56	9.16
Value	0.08	1.36	0.01	0.18	0.04	0.58
Volatility	0.14	2.4	0.2	2.76	0.61	10.56

	Russell 3000	BMI Europe	BMI Asia
	1988-2013	1998-2013	1998-2013
1Mo xRet	0.24%	0.37%	0.54%
Ret T-Stat	1.53	1.69	1.91
Ann IR	0.30	0.43	0.48
Hit Rate	51%	52%	52%
Count	163	127	91

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Dividend Policy Changes

- **Investors are acutely sensitive to changes in dividend policy. Literature suggests that dividend change announcements provide information about management's assessment of companies' prospects, and therefore are predictive of future stock returns.**

- **We analyze the market reaction to different types of dividend policy changes in the United States and Europe**
  - Dividend Initiation
  - Dividend Increase

Market Responds To Dividend Events

- **Market reaction to positive announcements**
  - Positive reaction to dividend increases
  - Stronger reaction to dividend initiations than to dividend increases

		Russell 3000				BMI Europe				BMI Asia			
Event type	Period	# of Events	Mean CAR	Standard Deviation	CAR T-Stat	# of Events	Mean CAR	Standard Deviation	CAR T-Stat	# of Events	Mean CAR	Standard Deviation	CAR T-Stat
	3-day		0.72%	5.30%	3.36		0.55%	4.46%	2.19		0.59%	7.44%	1.01
Initiation	22-day	605	1.88%	9.95%	4.59	332	1.77%	9.35%	3.35	172	0.96%	14.98%	0.81
	66-day		4.13%	16.88%	5.91		2.93%	21.00%	2.48		2.74%	26.27%	1.32
	3-day		0.42%	3.54%	11.92		0.65%	3.86%	14.26		0.82%	5.44%	9.79
Increase	22-day	10,295	1.08%	7.03%	15.43	7,533	1.53%	8.09%	15.96	4,544	1.77%	10.17%	11.23
	66-day		2.11%	12.82%	16.42		2.28%	14.46%	13.29		2.66%	17.73%	9.62

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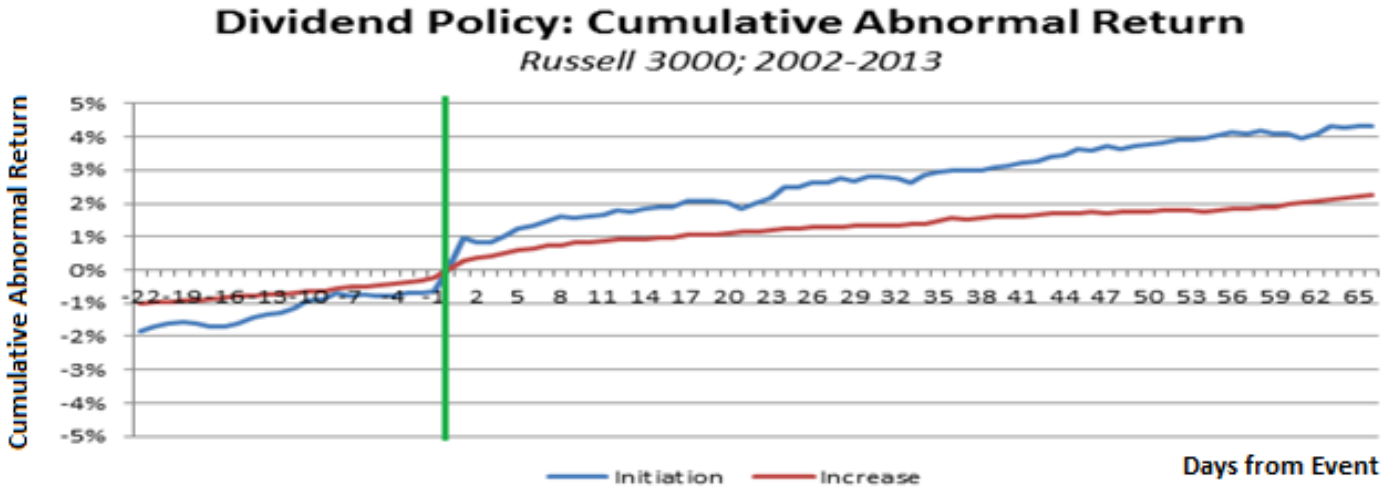
Stock Performance After Positive Change In Dividend Policy

- Positive reaction to dividend increases; negative reaction to dividend cuts
- Stronger reaction to dividend initiations than to dividend increases



Event type	# of Events	Period	Mean CAR	Standard Deviation	CAR T-Stat
Initiation	654	3-day	0.79%	5.21%	3.84
		22-day	1.79%	9.67%	4.67
		66-day	4.32%	17.15%	6.28
Increase	9,942	3-day	0.42%	3.54%	11.76
		22-day	1.10%	7.05%	15.33
		66-day	2.12%	12.88%	15.98

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Stock Performance After Positive Change In Dividend Policy

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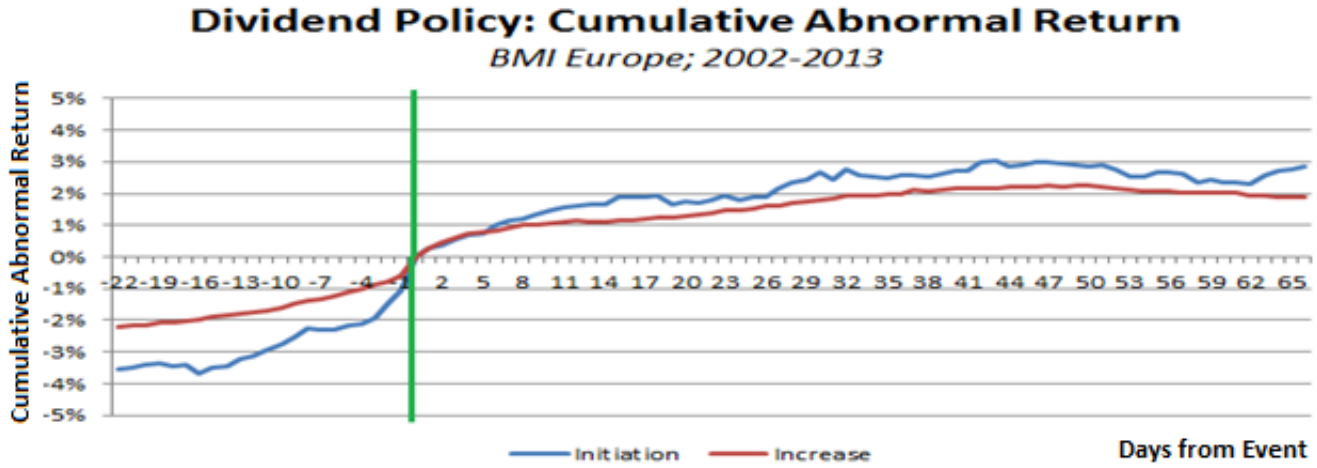

Event type	# of Events	Period	Mean CAR	Standard Deviation	CAR T-Stat
Initiation	312	3-day	0.53%	4.43%	2.07
		22-day	1.77%	9.19%	3.30
		66-day	3.13%	21.58%	2.46
Increase	7,167	3-day	0.65%	3.86%	14.04
		22-day	1.56%	8.10%	15.89
		66-day	2.39%	14.49%	13.32

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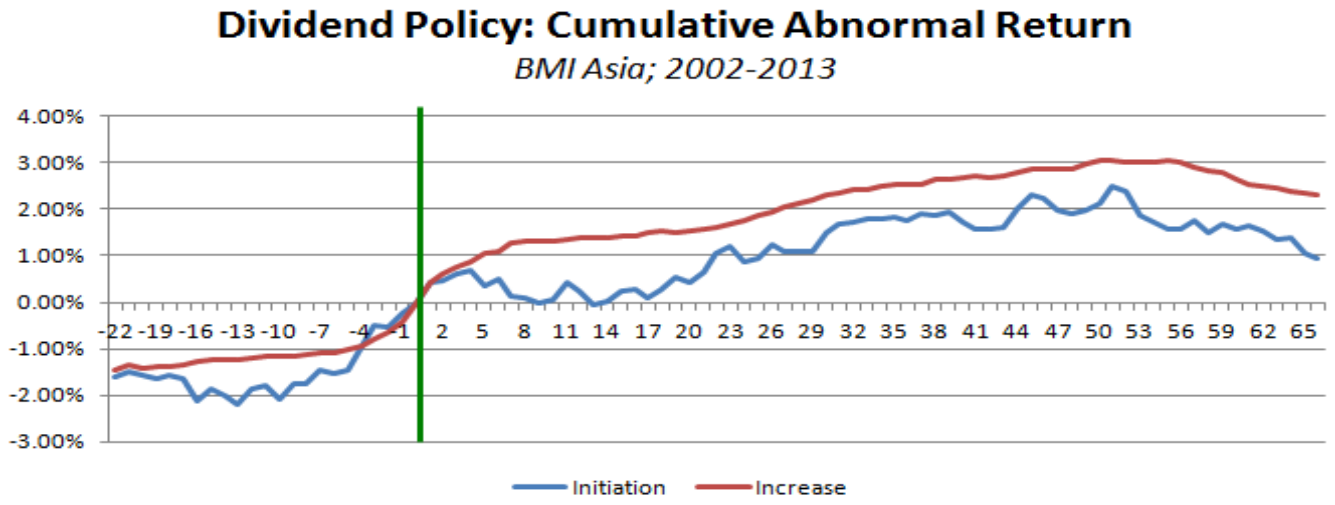

Event type	# of Events	Period	Mean CAR	Standard Deviation	CAR T-Stat
Initiation	172	3-day	0.59%	7.44%	1.01
		22-day	0.96%	14.98%	0.81
		66-day	2.74%	26.27%	1.32
Increase	4,544	3-day	0.82%	5.44%	9.79
		22-day	1.77%	10.17%	11.23
		66-day	2.66%	17.73%	9.62

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Portfolio Returns And Factor Correlation

- **Form a portfolio of all companies that either initiated or increased their dividend in both the US and Europe over the past 3 months**
- **This portfolio focuses on companies whose management is able to effectively utilize their capital (CE) with stable stock performance (Vol) though they appear to be highly valued by investors measured by traditional metrics (Val)**

	Russell 3000		BMI Europe		BMI Asia	
Dividend	*Correlation*	*T-stats*	*Correlation*	*T-Stats*	*Correlation*	*T-Stats*
Analyst	0.16	1.82	0.15	1.55	0.09	0.91
CapEff	0.15	1.75	0.29	3.19	-0.43	-4.98
Quality	0.08	0.98	0.19	2.08	-0.19	-2.02
Growth	0.01	0.07	0.06	0.67	0.24	2.65
Momentum	0.02	0.23	0.25	2.71	-0.08	-0.80
Size	0.10	1.14	0.16	1.71	0.39	4.50
Valuation	-0.10	-1.14	-0.40	-4.52	-0.17	-1.78
Volatility	-0.14	-1.68	-0.33	-3.67	0.60	7.97

	Russell 3000	BMI Europe	BMI Asia
	2002-2013	2004-2013	2004-2013
1Mo XRet	0.47%	0.32%	0.87%
Ret T-Stat	2.58	1.41	2.68
Ann IR	0.77	0.46	0.87
Hit Rate	58%	55%	67%
Count	197	180	101

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Complicated Firms

- **While many investors look to leverage industry-specific information sources to enhance their portfolios, many of the most widely followed largest companies span multiple business lines.**

- **It is more difficult for markets to incorporate industry-level information for these complicated firms given the added layer of complexity.**
  - Investors have to identify information across multiple industries, assess the significance in terms of the industry, and finally assess the importance of that industry to the complicated firm
    - Complicated Firms lag their representative industries

- **Identify companies where their underlying industries are experiencing the strongest performance over the past month**

Methodology

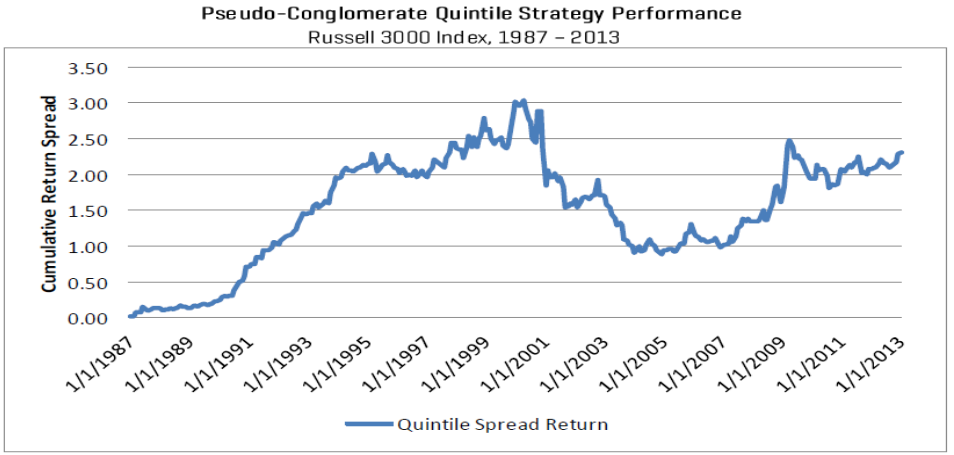
- **FASB Statement 14** requires that public companies provide information regarding their reportable segments including the segments industry and revenue

- **Simple Firms** - firms that derive greater than 80% of their total sales from one industry segment
- **Complicated Firms** - firms where there largest industry segment accounts for less than 80% of their total sales

- **We weight simple industry returns proportionate to the company's sales in each industry in an attempt to identify where there have been information shocks over the past month**

Complicated Firm – Portfolio Formation

- **This portfolio is tilted towards large cap stocks (Sz) with weak momentum (PMOM) however these exposures don't subsume the alpha from the strategy 50bps/month (t-stat = 2.46)**



Russell 3000

Complicated Firms Portfolio	*Correlation*	*T Stat*
Analyst Expectations	-0.06	-1.06
Capital Efficiency	0.07	1.23
Earnings Quality	0.06	1.13
Historical Growth	-0.02	-0.29
Price Momentum	-0.26	-4.65
Size	-0.13	-2.23
Valuation	-0.04	-0.74
Volatility	-0.01	-0.22

Fama French Return of Complicated Firms Spread
Russell 3000 Index, 1987 – 2013

	Coefficients	*Standard Error*	*t Stat*
Intercept	0.005	0.002	2.46
R3000	0.002	0.046	0.05
BP	-0.088	0.062	-1.42
LogMktCap	-0.131	0.053	-2.47
12M1M	-0.086	0.052	-1.63

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Event Driven Investing In The US And Europe

- **Strong Panel Event Study Performance**
- **Significant if uninspiring portfolio performance**

	Dividend Policy		*Activist Investing*	*Complicated Firms*
	BMI Europe	Russell 3000	Russell 3000	Russell 3000
1 Month CAAR	1.77%***	1.79%***	3.40%***	--
Avg 1Mo Ex Return	0.32%	0.47%**	0.81%**	0.44%**
Annualized IR	0.46	0.77	0.76	0.45
Portfolio Hit Rate %	55%	57%**	55%	58%***
Average Count	180	197	53	101

CEO Turnover

	BMI Europe	Russell 3000	BMI Asia
12 Month CAAR	6.21%***	4.43%***	7.19%***
Avg 1Mo Ex Return	0.37%*	0.24%	0.54%
Annualized IR	0.43	0.30	0.48
Portfolio Hit Rate %	52%	51%	52%
Average Count	127	163	91

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Event Driven Investing In The US And Europe

- **Traditional 'panel' approach to event studies may be overly simplistic**
  - The simplicity is attractive but it tends to produce overly optimistic results by not taking into real world constraints
  - Portfolio approach is considerably more conservative

- **Event signals provide meaningful alpha as an overlay or as its own strategy**
  - Typically low correlation to many traditional investment strategies suggests potential to complement an existing strategy
  - Possible to generate significant abnormal returns even with a conservative approach on its own
  - Events can generate alpha globally as both quantitative and fundamental investors respond to these stimuli

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