Increasing Shareholder Value? A Study of Share Repurchases

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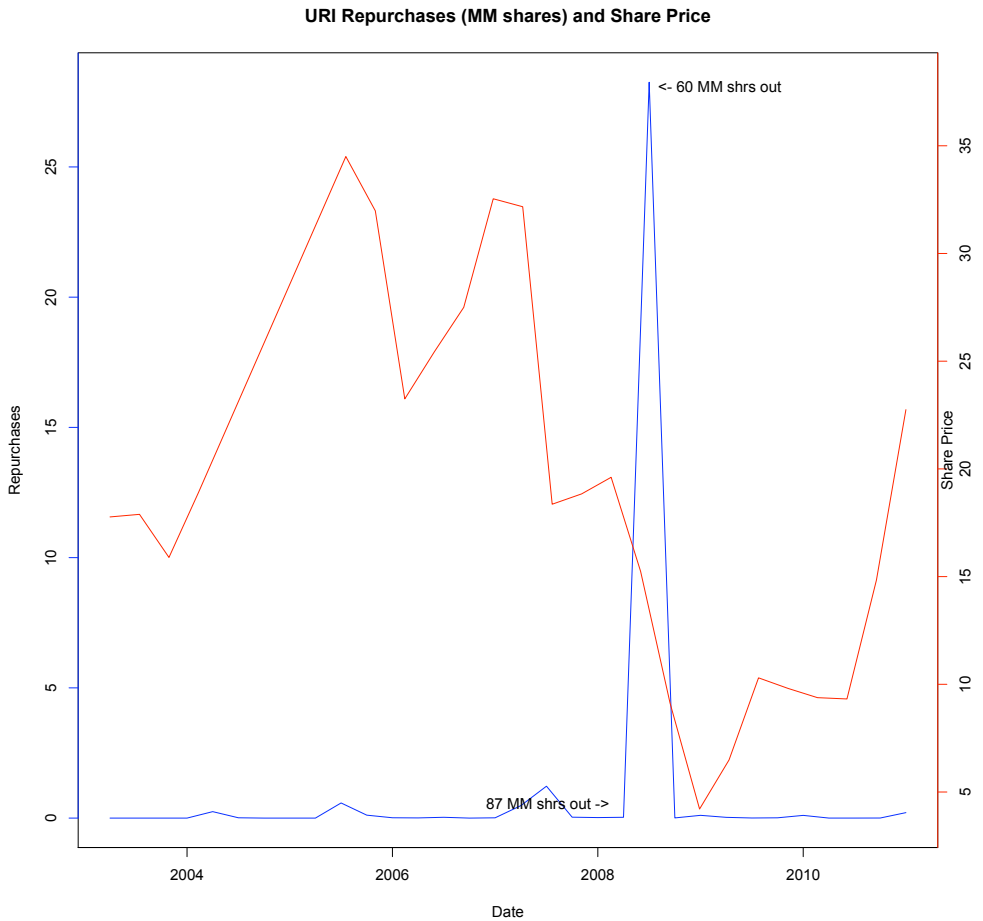
A Wise Man Once Said...

> *It's only when the tide goes out that you learn who's been swimming naked.*
> *— Warren Buffett, 1992 Letter to Shareholders*

A crisis can reveal bad behavior and poor management.
Relevance: Use financial crisis to study share repurchases.

The Case of United Rentals[1]

- Consider behavior of United Rentals (URI) from 2002–2010.
- URI sells/lets industrial/construction equipment (cyclical).
- Look at repurchases versus share price:



- Often claimed: buybacks "increase shareholder value."
- Here: they look futile.
- Even a 30% buyback (87 MM $\longrightarrow$ 60 MM shares) did little.

[1] An otherwise interesting firm. . . .

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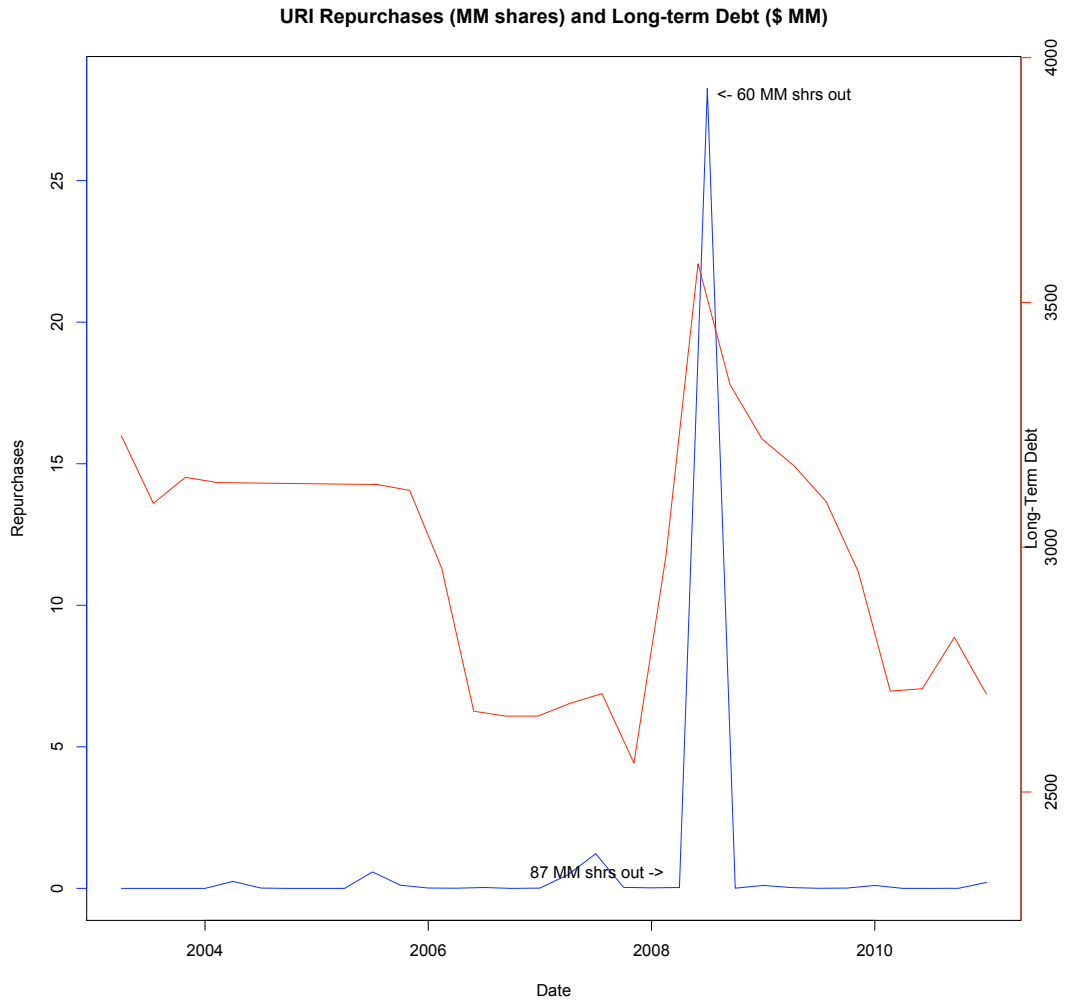
The Case of United Rentals: Debt

Repurchases versus debt:



- 2007, 2008 buybacks were financed by increasing debt.
- In 2008, debt grew from $2 bn to $3.5 bn.
- 75% increase in debt to buyback 30% of equity.
- Wise move for a cyclical firm?

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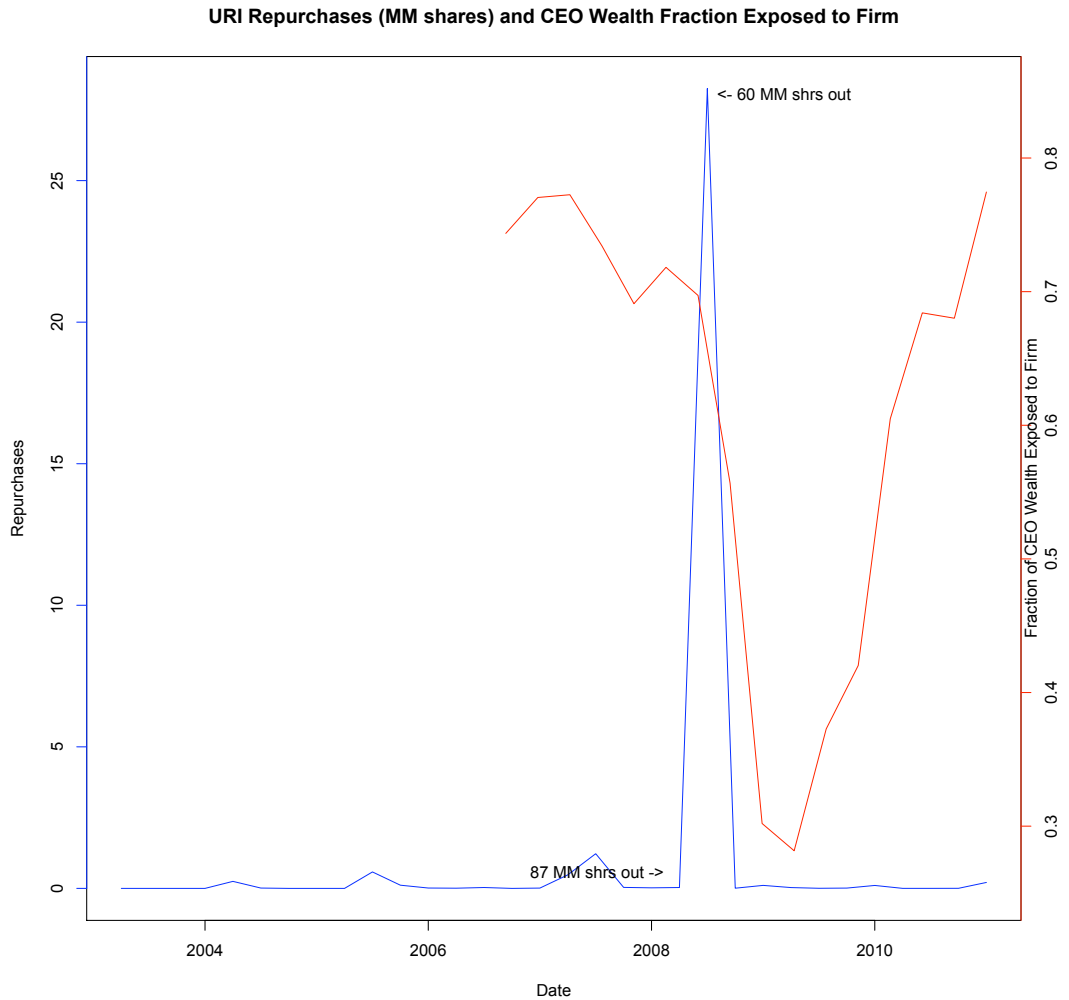
The Case of United Rentals: CEO Exposure

Repurchases versus CEO wealth exposed to equity:



- Often claimed: buybacks "increase shareholder value."
- CEO sells during 2007, 2008 buybacks.
- If URI was a "buy," why did the CEO sell?
- 2005: FAS 123 allows us to see exposures.
- *N.B.* No 2006 data due to fraud.

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Results

We find evidence that repurchases:

- are a costly way to give money to shareholders;
- tend to be bigger when CEOs more exposed to stock price;
- often do not increase shareholder value;
- may be used to defend against mergers;
- may be used to reduce debtholder value;
- are less likely when firms hold more debt; and, thus,
- are a possible channel for asset stripping.

Traditional Claims About Share Repurchases

- Repurchases often claimed to "increase shareholder value."
  - Dittmar (2000), Peyer and Vermaelen (2009) affirm this.
  - Vermaelen *et al* (1990,1995,1997) on *announcement* effect.
- Later studies (Dittmar and Dittmar (2008)) refute this:
  - Repurchases *increase* with stock price; and,
  - Repurchases *do not* precede/predict higher returns.
- Many studies see dividends as entailing costly commitment.
  - Skipping/changing dividend seen as signal of firm value.
- Repurchases often cast as commitment-free dividends.
  - No commitment: may delay/scrap without later notice;
  - No signal: announcing, canceling are positive/cheap talk;

Market Microstructure

- Market microstructure: much research into trading costs.
- Trading has permanent effects which change prices.
  - Linear: Kyle (1985), Huberman and Stanzl (2004).
- Trading also incurs costs which do not change prices.
  - Almgren and Chriss (2001), Huberman and Stanzl (2004).
  - "Temporary" impact; effectively transaction fees.
- Microstructure $\Rightarrow$ repurchases $=$ costly way to send money.

Giving Away Money (*Brewster's Millions*)

Consider a firm with \$200 mn extra cash on hand:

- 100 mn shares outstanding,
- \$4 bn firm; no debt; $\Rightarrow$ \$40/share,
- Assume marginal tax rate of 20%, $r_f = 2\%$.

The firm wants to give this \$200 mn away. How?

- issue special dividend,
- increase dividend, or
- buy back shares.

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Giving Away Money: Choices

- Special dividend of \$2/share.
  - Tax arbitrage means ex-div price of \$38.40/share.
  - Get \$1.60 in cash, after tax/share.
- Increase dividend stream by perpetuity worth \$2.
  - Increase dividend by $\$2/r_f = \$0.04$; \$0.032, after tax.
  - Tax arbitrage means ex-div price of \$39.968/share.
- Buy back $\$2/\$40 \times 100$ mn $= 5$ mn shares.
  - Almgren and Chriss: impact $= \#$ shares $\times \pi = \$1$[2]
  - \$1 capital gain yields \$0.80 after tax.
  - This is conservative: omits irrecoverable temporary impact.

[2] $\pi = 2 \times 10^{-7}$

Giving Away Money: The Scorecard

Conservatively, how do these actions compare? ($ millions)

Action	Market Cap.	Div.	Capital Gain	Investor Wealth	Stock Price
Special Div.	$3840	$160	—	$4000	$38.40
Increase Div.	$3997	$3.2	—	$4000	$39.97
Buyback Shares	$3895	—	$78	$3973	$41

Is this a good idea?

- No, if you care about investor wealth.
- Yes, if you care about a higher stock price.
- Proposition:
  In a world with sensible price impact, share repurchases do not increase shareholder value.

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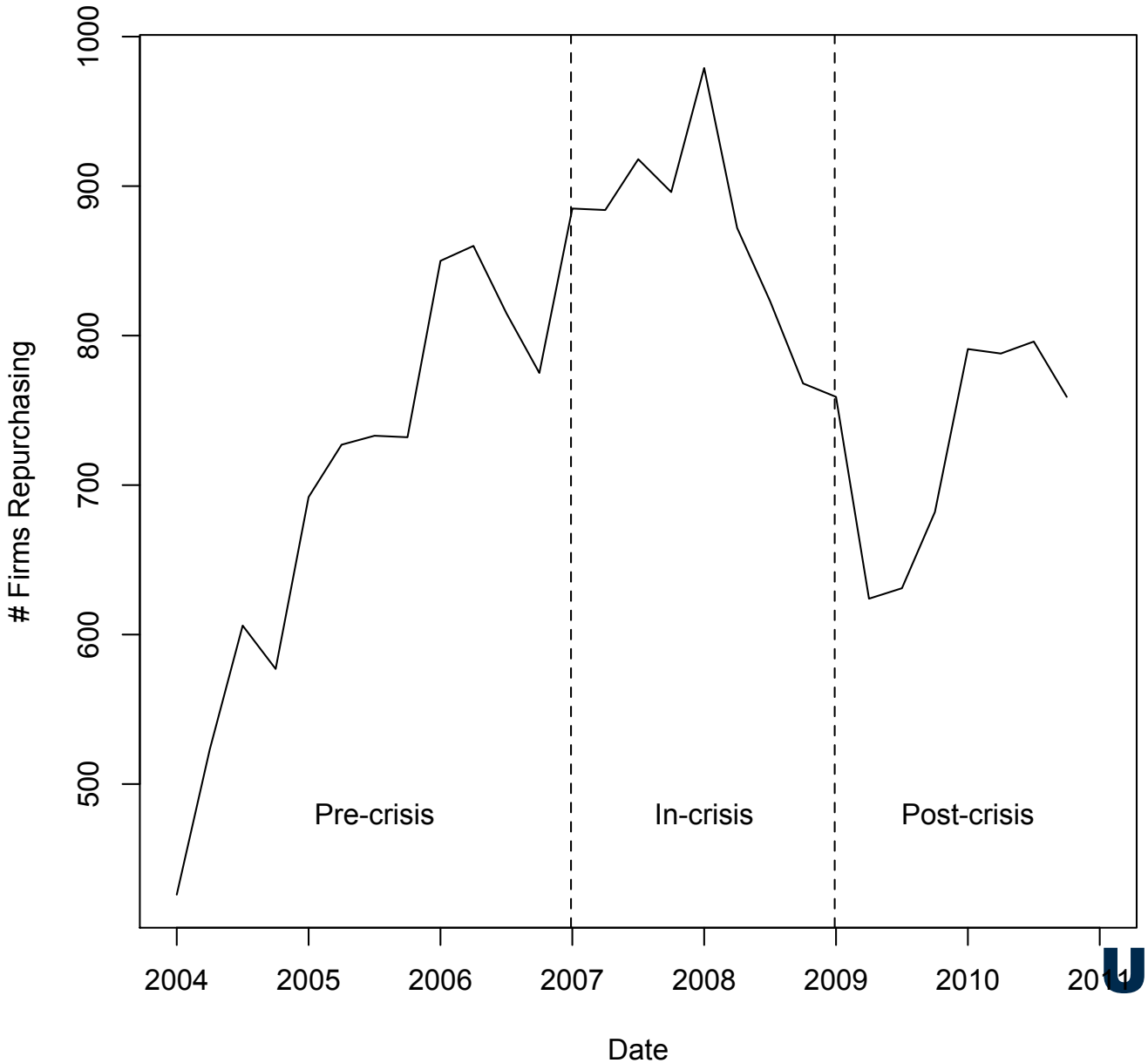
Dataset

- We use the financial crisis to study repurchases.
- Data: Compustat 2004Q1–2010Q4; Execucomp 2003–2010.
- Filter: only firms which did buybacks and CEO compensation.
- Buybacks: 1,812 firms; 2,458 CEOs; 12,287 usable obs.
- Variables we focus on here:
  - CEO total compensation, holdings of firm equity and options.
  - CEO equity wealth fraction[3] $= \frac{\text{Exposure}}{\text{Compensation}+\text{Exposure}}$
  - Buyback yield = Fraction of market cap repurchased.
  - Entrenchment: BC states[4], change-in-control payments.
  - Long-term debt

[3] Similar to options Δ, Jolls (1998) on options.

[4] As suggested by Bertrand and Mullainathan (2003).

Buybacks by Quarter



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Buybacks versus (Lagged) CEO Wealth in Firm

Period	Overall	Pre-Crisis	In-Crisis	Post-Crisis
N	12,287	145	6,339	5,803
Intercept	0.009	0.020	0.013	0.007
(stderr)	(0.001)	(0.006)	(0.002)	(0.001)
t-stat	9.7	3.2	8.0	9.1
Eq. Expos.	0.005	-0.011	0.002	0.002
(stderr)	(0.001)	(0.008)	(0.002)	(0.001)
t-stat	4.3	-1.4	1.2	1.7

- Larger buybacks when CEOs have more equity.
- Q: Why the difference in period and overall results?
  A: Different means of equity exposure in different periods.

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(Lagged) CEO Equity Wealth Fraction by Period

Period	Pre-Crisis	In-Crisis	Post-Crisis
N	145	6,339	5,803
E(Eq. Expos.)	0.760	0.820	0.753
Std Dev	0.240	0.179	0.208

t-tests of equity exposure for CEOs who do buybacks:

- Pre-crisis and In-crisis differ ($t = -2.98$)
- Post-crisis and In-crisis differ ($t = -18.95$)
- Pre-crisis and Post-crisis do not differ ($t = -0.37$)

Crisis buyback CEOs differ from "peacetime" buyback CEOs: 8% more wealth (82% vs 76%) is tied to firm stock price.

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Buyback Yield versus Entrenchment

N	Intercept	Eq. Expos.	Golden[5]	BC State[6]
12,287	0.009	0.005	0.001	
	(0.001)	(0.001)	(0.001)	
	t =9.7	4.2	0.9	
12,142	0.009	0.005		-0.001
	(0.001)	(0.001)		(0.0004)
	t =9.6	4.4		-2.3

Likelihood of share repurchases:

- CEOs w/golden parachutes: slightly more likely.
- CEOs protected from mergers by BC laws: *less* likely.
- Confirms Bagewell (1991): repurchases help deter mergers.

[5] Golden = 1 if CEO paid $>$ 10$\times$ total comp when fired.
[6] BC State = 1 if inc. state has business combination laws.

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Buybacks versus Debt

N	Intercept	Eq. Expos.	BC State	Debt/Share	Debt
12,206	0.009	0.005	-0.001	-8×10^{-9}	
	(0.001)	(0.001)	(0.0004)	2×10^{-9}	
	t =9.9	4.2	-2.1	-4.8	
12,206	0.009	0.005	-0.001		-4×10^{-8}
	(0.001)	(0.001)	(0.0004)		8×10^{-9}
	t =9.7	4.5	-2.0		-4.9
12,206	0.009	0.005	-0.001	-7×10^{-9}	-3×10^{-8}
	(0.001)	(0.001)	(0.0004)	2×10^{-9}	9×10^{-9}
	t =9.5	4.3	-1.9	-3.6	-3.9

Results are consistent and suggest:

- Disciplining power of debt[7] reduces repurchases.
- Results are robust to effects of anti-merger provisions.
- Affirm hypothesis that repurchases tend to hurt debtholders.

[7] Jensen and Meckling (1976).

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Suggestion 1: Limit timing of repurchases and executive sales.
Suggestion 2: Debt covenants should restrict share repurchases.

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