When are Analyst Recommendation Changes Influential?

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Influential recommendation changes

- Nov 1, 2007: Meredith Whitney (CIBC) downgraded Citigroup saying that it needs to raise capital or cut its dividend to cope with the credit crisis. Citi dropped 6.9%, the CEO quit 2 days later, and the analyst apparently received death threats.
- Sep 1, 2009, Todd Bault (Bernstein) downgraded AIG and warned that investors are ignoring the fact that AIG's shares could be worth zero. AIG fell 20%.

Our paper

- We identify recommendation changes (*Recchg*s) that impact the firm's stock in a visible way.
- We investigate when *Recchg*s have such noticeable impact and who makes such calls.

Literature examines only the average reaction

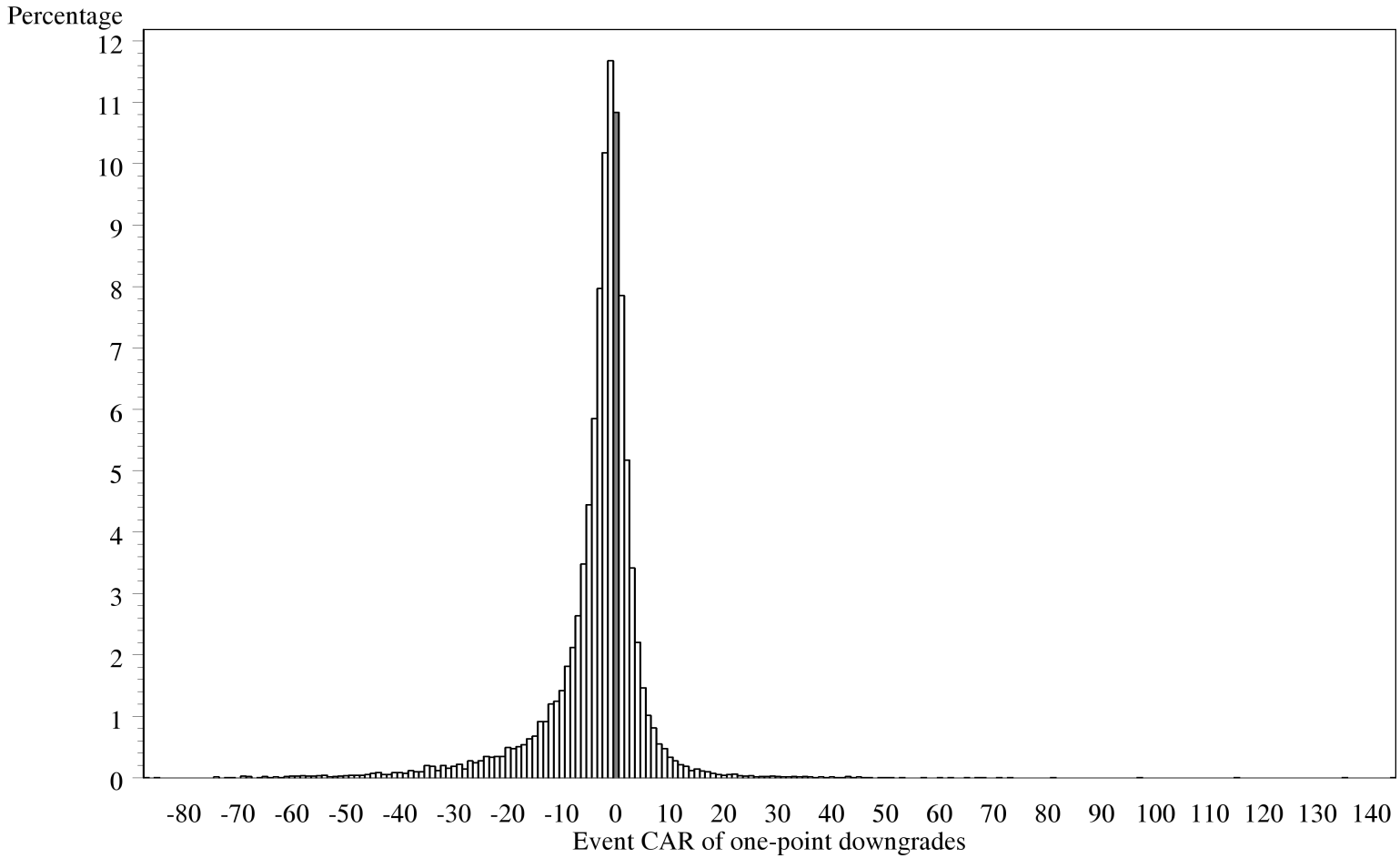
- Papers such as Stickel (1995), Fang and Yasuda (2007), Altinkilic and Hansen (2009), Ivkovic and Jegadeesh (2004).
  - But if the average reaction to a downgrade is about –1%, –1% may be statistically significant but it is hardly noticeable by any investor.
  - Averages also do not answer our question on which *Recchg*s are influential.

Other problems with averages

- Lots of *Recchg*s have returns close to zero or in the wrong direction. See Fig 2a.
- Many *Recchg*s are issued together with firm news releases.
- Averages are dominated by large stocks.

Fig2a: Histogram of 1-point downgrades

Many obs in the shaded zero bin & many have wrong-sign returns



Influential: We must notice the impact!

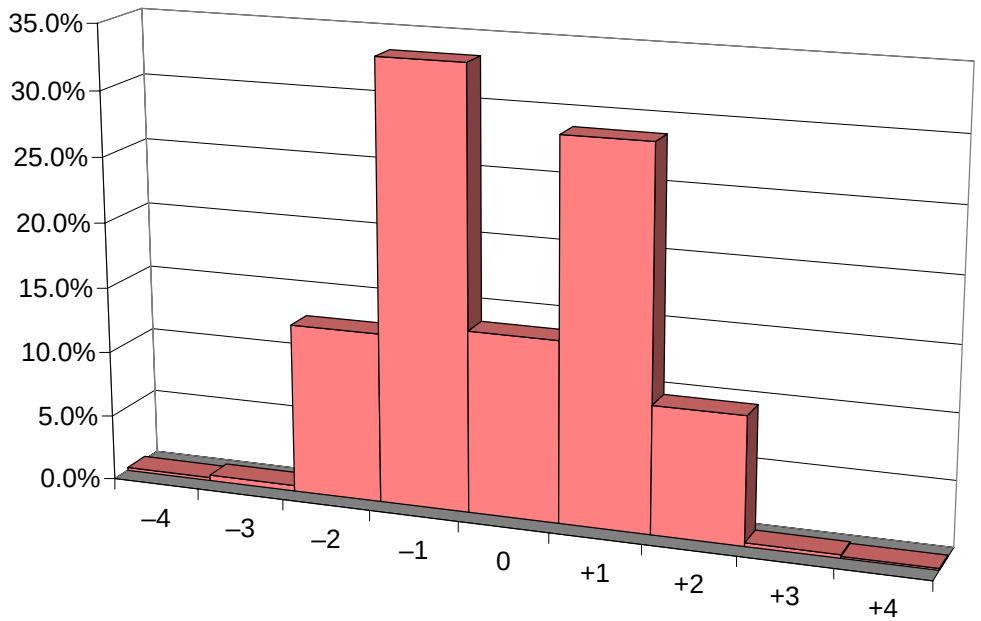
Influential Definition

A *Recchg* is influential if its abnormal return reaction is in the right direction and more than 1.96 times the stock's prior idiosyncratic volatility of returns.

- We also use an abnormal turnover definition (a *Recchg* that causes abnormal high trading volume is also important)
- Our analyses use a sample that removes *Recchg*s issued together with major firm news so that we can attribute the stock price reaction to the *Recchg* itself.

Data

- IBES US Detail recommendations, 1994-2006. Five-point rating scheme from 1[Strong Sell] to 5[Strong Buy] so that *Recchg* ranges from –4 to +4.
- Panel B of Table 1 shows the distribution of 154,134 *Recchg*s. Bulk falls within –2 to +2.

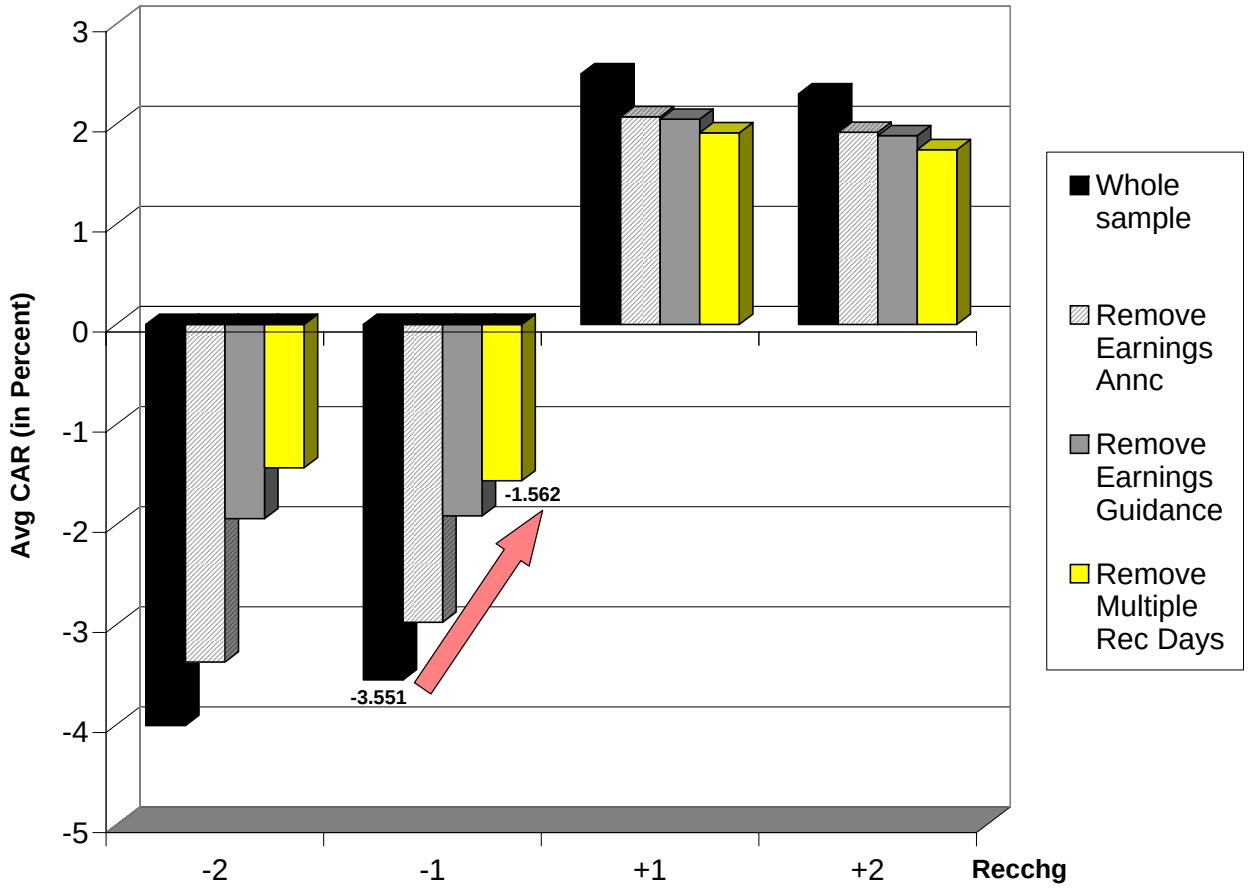


Influential definition

1. **Influential in abnormal returns** if CAR_i has the same sign as *Recchg* and $|CAR_i| > 1.96 \times \sqrt{2} \times \sigma_\varepsilon$
   - 2-day $CAR_i = \prod_{t=0}^{1}(1 + R_{it}) - \prod_{t=0}^{1}(1 + R_{it}^{DGTW})$
   - σ_ε is the stdev of residuals from a time-series regression of past 3-month (days –69 to –6) firm returns R_{it} against market returns R_{mt} and the Fama-French factors *SMB* and *HML*.
2. **Influential in abnormal turnover** if *abturn* is $> 1.96 \times \sqrt{2} \times \sigma_{abturn}$
   - where $abturn = \ln turnover - \overline{\ln turnover}$
   - $\overline{\ln turnover}$ is the past 3-month average daily $\ln turnover$
   - $\ln turnover = \ln(turnover + 0.00000255)$.

If we sequentially remove firm-news contaminated days...

...Avg $|CAR_i|$ drops. (Note: $\approx \frac{1}{3}$ of *Recchg*s are contaminated!)



Fraction of influential *Recchg*s

- Only 11.7% of *Recchg*s are influential in returns.
- 12.8% influential in turnover.
- 4.8% are influential in *both* returns and turnover. 6.9% are influential in returns only, and 8% are influential in turnover only.

Bottomline...

- Few *Recchg*s are influential. The typical reaction cannot be noticed by investors.
- But there are more influential *Recchg*s than expected based on chance alone. Analysts add value by virtue of the fact that there are influential *Recchg*s.

Effect of influential *Recchg*s

- Higher Leader-Follower Ratios (Cooper, Day, & Lewis, 2001): Other analysts hurry to revise after them.
- Increases in return volatility, turnover, analyst activity, magnitude of earnings forecast revisions. Consistent with a paradigm shift occuring (Hong, Stein, & Yu, 2007). Investors view the firm differently after an influential *Recchg*.
- Large industry returns. Veldkamp (2006) predicts that analysts may want to produce industry information.

Characteristics	Influential based on firm's abnormal returns			
	Not Influ	Influential	Difference	
			Influ – Not	t-stat
Table 3, Panel C: Change in firm environment around recommendation				
Leader-Follower Ratio of rec	2.032	3.176	1.144***	(12.21)
Δ Volatility of daily ret ×100	-0.081	0.350	0.431***	(21.41)
Δ Daily turnover ×100	0.004	0.096	0.092***	(18.95)
Δ in # of EPS forecasts	-0.359	4.978	5.337***	(9.65)
Δ in FY2 |Forecast Revision|×100	0.034	0.127	0.093***	(3.93)
Fraction with large industry vw return	0.042	0.123	0.080***	(18.45)

Analyst and Firm characteristics: Table 3

Characteristics	Influential based on firm's abnormal returns			
	Not Influ	Influential	Difference	
			Influ – Not	t-stat
Panel A: Analyst and recommendation characteristics				
Forecast accuracy quintile	2.810	2.771	-0.039***	(-2.75)
Away from consensus	0.358	0.416	0.058***	(9.84)
Star analyst	0.159	0.205	0.046***	(9.53)
Absolute analyst experience (# Qtrs)	28.451	29.644	1.192***	(4.63)
Relative analyst experience	2.652	3.354	0.702***	(5.03)
Concurrent earnings forecast	0.446	0.510	0.064***	(10.15)
Influential before (any stock)	0.562	0.664	0.102***	(15.57)
Influential before (same stock)	0.100	0.137	0.037***	(9.99)
Panel B: Firm characteristics prior to recommendation				
B/M ratio	0.484	0.498	0.014***	(2.78)
Size ($m)	8971.683	7451.049	-1520.6***	(-5.49)
Institutional ownership	0.608	0.634	0.027***	(8.44)
Dispersion ×100	14.167	15.119	0.952	(1.31)
Total volatility ×100	2.876	2.556	-0.319***	(-11.79)
Daily turnover ×100	0.655	0.603	-0.052***	(-7.42)
# of EPS forecasts	86.669	72.422	-14.247***	(-15.56)

Table 4: Predicting Influential *Recchg*s

22 variables in the probit model to gauge the marginal effect (impact of one stdev change of each variable on the baseline influential probability *ceteris paribas*).

Explantory Variable	Influential in returns	
	Coefficient	Marg. Eff
Influential before (any stock)	0.154***	2.88%
	(8.35)	
Influential before (same stock)	0.065***	1.21%
	(2.93)	
Rec level	0.045***	0.80%
	(4.01)	
Absolute value of *recchg*	-0.017	-0.16%
	(-1.00)	
Upgrade Dummy	0.080***	1.50%
	(4.01)	
Reg FD Dummy	0.206***	3.85%
	(8.82)	
Settlement Dummy	0.093***	1.73%
	(3.84)	

Table 4 (part 1 of 3)

- Being influential in the past begets more success.
- Upgrades are more influential.
- Regulatory reforms improves influential probability.

Predicting Influential *Recchg*s, analyst variables

Explantory Variable	Influential in returns	
	Coefficient	Marg. Eff
Past Forecast accuracy quintile	-0.011*	-0.24%
	(-1.90)	
Away from consensus	0.147***	2.74%
	(9.87)	
Star analyst	0.207***	3.87%
	(9.36)	
Absolute analyst experience	-0.001*	-0.41%
	(-1.96)	
Relative Analyst experience	0.001	0.14%
	(0.84)	
Concurrent earnings forecast	0.119***	2.22%
	(7.87)	
Past Leader-Follower Ratio (LFR)	0.006***	0.36%
	(2.74)	

Table 4 (part 2 of 3)

Biggest marginal effects are from:

- Recchg away from the consensus.
- Star analyst status (from Institutional Investor poll).
- Concurrently issued earnings forecasts.

Predicting Influential *Recchg*s, firm variables

Explantory Variable	Influential in returns	
	Coefficient	Marg. Eff
Log(B/M)	-0.100***	-1.51%
	(-9.66)	
Log(Size)	-0.082***	-2.49%
	(-10.67)	
Price momentum	0.031**	0.34%
	(2.38)	
Log(Institutional ownership)	0.049**	0.38%
	(2.15)	
Log(Turnover)	0.042***	0.62%
	(2.82)	
Log(Idiosyncratic volatility)	-0.351***	-3.45%
	(-15.10)	
Dispersion	0.032***	0.38%
	(3.13)	
Log(Analyst activity)	-0.138***	-2.17%
	(-11.49)	

Table 4 (part 3 of 3)

- Low B/M (growth) firms and small firms are more likely to have influential *Recchg*s
- Low idio. volatility firms
- Low analyst-activity firms

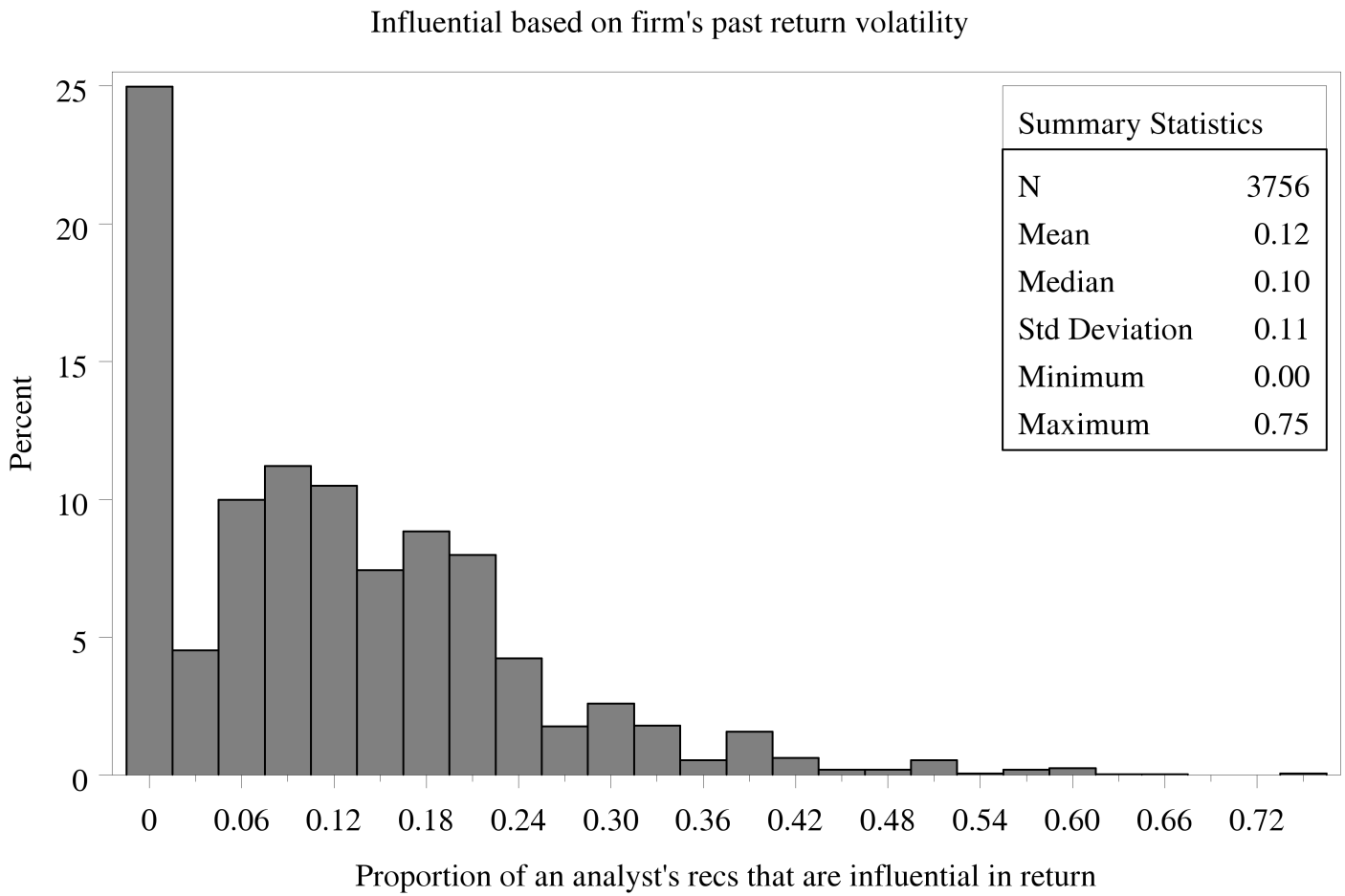
Table 5: Ever Influential vs. Never Influential

- 25% (1 in 4 analysts) have never issued any influential *Recchg*.
- For ever influential analysts, 22% (1 in 5) of their *Recchg*s are influential

Characteristics	Influential based on firm's abnormal returns			
	Never	Ever Influential	Difference	
			Ever–Never	t-stat
Number of Analysts	935	2,821 75.1%		
% influential recs for typical analyst	0.0%	22.1%		
Forecast accuracy quntile	2.894	2.819	-0.076***	(-3.20)
Away from consensus	0.357	0.367	0.010	(1.52)
Was once a Star analyst	0.092	0.253	0.161***	(12.91)
Absolute analyst experience (# Qtrs)	18.09	24.42	6.329***	(10.11)
Relative analyst experience	-1.26	1.36	2.624***	(9.61)
Concurrent earnings forecast	0.477	0.462	-0.015*	(-1.66)

Fig 3a: Histogram of an individual's influential fraction

- Ability to be influential is a skill and not random.



Earnings forecast revisions

- Studies have examined avg CARs to earnings forecast revisions but never looked at our influential definition.
- With a sample that removes corporate news-contaminated revisions, we find only 5% of earnings forecast revisions are influential. But **influential fraction doubles** when revision is accompanied by a recommendation.
- Hence, impactful research is more likely to be conveyed with a *Recchg*.

Tabel 7, Panel A: Forecast revisions sample

Forecast Revision Sample	Influential based on abnormal:	All forecast revisions			Revisions with Recs		
		Not Influ	Influential	Percent	Not Influ	Influential	Percent
Annual	Returns	286,813	13,402	4.5%	18,094	2,023	10.1%
	Turnover	283,672	16,543	5.5%	17,676	2,441	12.1%
Quarterly	Returns	105,570	5,346	4.8%	6,268	799	11.3%
	Turnover	104,125	6,791	6.1%	6,081	986	14.0%
LTG forecasts	Returns	42,258	1,750	4.0%	3,119	310	9.0%
	Turnover	41,055	2,953	6.7%	2,930	499	14.6%

Alternative influential definitions

1. *Recchg*s could be stale if the prior rating is too old. We get the same results if we define *Recchg* as the current rating minus the prevailing consensus, or the current rating minus the last rating by any analyst.
2. If a *Recchg* causes the entire market to move, we may understate the influential fraction. But, we get similar results with a raw return-based influential definition.
3. We remove *Recchg*s when the [-2,-1] return is large, as an extra proxy for significant firm news. We get a similar influential fraction of *Recchg*s.
4. We remove recommendation days from the computation of idiosyncratic volatility. Influential fraction goes up slightly to 12.1%.

Conclusion

- We suggest an alternative approach to judge the impact of a recommendation change.
  - We see the value of analysts—*Recchg*s have influential impact 12% of the time.
  - But the bulk of recommendations have little visible impact.
- Analysts are serially influential. Some analysts (stars, bold, etc.) are more likely to be influential, and some types of firms (growth, small, low activity, etc).
- Recommendation changes, not earnings forecast revisions, are the usual avenue that leads to significant moves in stock prices.