Discussion of "Resolving Estimation Ambiguity" by Decaire, Sosyura, and Wittry

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Summary of the Paper

- Novel evidence on that same-model analysts diverges in estimation:

  Large dispersion in WACC $\leftarrow$
  $\leftarrow$ dispersion in β and *ERP* $\leftarrow$
  $\leftarrow$ dispersion from choices of horizons to estimate β

- Choice of horizons persists within analyst, throughout career, across stocks, across brokerages, and not explained by analyst-level characteristics (e.g., gender, education, race).
  - $\rightarrow$ Consistent with theory on analysts using idiosyncratic heuristics to decide on a horizon (and stick with it), rather than other decision theories.

- Analysts' WACC disagreement positively associated with trading volume. Obtain similar results using econometrician's estimated β divergence (in Appendix). $\rightarrow$ WACC divergence matters for real outcomes.

General comments

- Very interesting paper! Enjoy lot reading it. It goes back to the fundamental Finance 101 problem.
  - $\rightarrow$ We may want to be careful when telling students how to estimate β!
- Quite convincing that the choices of horizons are unlikely driven by other decision theories.
- Comments mainly focus on the interpretation and on real outcomes.

Comment 1: Data

Panel A: Overlapping WACC Sample						
Number of Total Observations			45,992			
Number of Total Firms			4,261			
Number of Total Firm HQ Countries			63			
Number of Total Brokerage Houses			42			
Number of Total Identified Analysts			4,566			
Number of Total Analyst Countries			45			
	Mean	Std. Dev.	25^{th} Pct.	Median	$75^{th} Pct.$	Obs.
Firm Details						
Analyst Coverage (#)	10.0	7.4	4.0	8.0	15.0	12,060
Sample Coverage (years)	4.0	4.2	1.0	2.0	5.0	4,261
Equity Report Details						
$WACC_{a,i,t}$	0.089	0.019	0.076	0.087	0.100	45,992
$rf_{a,i,t}$	0.040	0.017	0.030	0.040	0.050	10,921
$CAPM\ Beta_{a,i,t}$	1.089	0.280	0.900	1.050	1.200	12,409
$ERP_{a,i,t}$	0.057	0.014	0.050	0.055	0.064	11,052
$r^E_{a,i,t}$	0.101	0.024	0.085	0.099	0.114	7,833
$TGR_{a,i,t}$	0.022	0.020	0.015	0.020	0.030	29,244
Pairwise Differences						
$WACC_{\|A-B\|,i,t}$	0.014	0.013	0.005	0.010	0.019	48,019
$rf_{\|A-B\|,i,t}$	0.010	0.011	0.003	0.008	0.013	3,247
$CAPM\ Beta_{\|A-B\|,i,t}$	0.219	0.211	0.080	0.170	0.300	4,170
$ERP_{\|A-B\|,i,t}$	0.013	0.013	0.005	0.010	0.016	2,921
$(CAPM\ Beta \times ERP)_{\|A-B\|,i,t}$	0.016	0.016	0.005	0.011	0.022	2,059
$r^E_{\|A-B\|,i,t}$	0.018	0.017	0.006	0.013	0.024	1,498
Panel B: CAPM Beta Textual Analysis Sample						
Number of Total Observations			1,023			
Number of Total Firms			794			
Number of Total Brokerage Houses			36			
Number of Total Analysts			508			

Only be able to observe the β estimation methods for 10% of the sample.

Comment 1: Data (cont.)

- Is there a way to "backout" the methodology they use from observed βs?
- Based on the observed methodologies, there are not too many candidates: $\{$weekly, monthly$\} \times \{$24, 36, 48, 60, 72, 120 months$\}$.
- Reported *ERP* may also be helpful.
- Maybe some other noise on the exact window (Dec to Dec or Jan to Jan). If not that precise, already good if can backout the horizon used.
- Can add value if have a (many times) larger sample which we know the (inferred) methodology.

Comment 2: On the origin of the choice of horizon

Is there any reason that an analyst chooses a certain horizon in the first place? Or is it just purely random?

- Authors acknowledge that they cannot differentiate the two now and are collecting data to address it.
- Even using current data, an interesting test is to regress an analyst' horizon choice on the mode of horizons of the brokerage firm (or brokerage firm $\times$ industry) **of their first job**.
  (where data expansion might be helpful)
- Hypothesis being they are affected by other analysts in the first job and anchor with it for the rest of their career. (in the first place told to do so by the boss or senior analyst)

Comment 3: Trade-off behind horizon choices

- Trade-off in horizon choices:
  - $\rightarrow$ Horizon too long: Past $\neq$ Future.
  - $\rightarrow$ Horizon too short: Noise in the estimation.

- This trade-off can be different across stocks, across industries, and by time.

- Some descriptive statistics on correlation between choices of horizons and stock characteristics - industry? size? The volatility of econometrician-estimated βs?

- Could also be second moment: Is it true that, for those stocks where horizon matters a lot, we see less divergence on analysts' choice of horizons?

- These tests are not inconsistent with the current evidence on the persistence within analyst in the paper. Could still be the case that different-horizon analysts are "matched" to stocks based on some sort of optimization.

Comment 3: Trade-off behind horizon choices (cont.)

- Sometimes we know that horizon too long is bad - when the firms have some major events that likely change βs.
- A potentially good dataset to explore is the Capital IQ Key Developments, which includes major events for firms (e.g., M&A, re-organizations, etc).
- Do these events explain the timing when analysts change horizons in the sample? (The 20% in the sample).
- All these suggestions are to understand better what drives analysts' choices of horizons beyond "idiosyncratic" reasons: Is there any form of optimization happening?

Comment 4: Real outcomes of discount rate disagreement

Table 9: Analysts' dispersion in WACC and trading volume.

Panel A	$FVOL_{i,t}$					
	(1)	(2)	(3)	(4)	(5)	(6)
$\text{Max}_{a\in A}(WACC_{i,t}) - \text{Min}_{a\in A}(WACC_{i,t})$	1.060***	0.230***	0.238***	0.154***	0.120***	0.134**
	(0.128)	(0.047)	(0.048)	(0.045)	(0.042)	(0.057)
$\text{Max}_{a\in A}(TGR_{i,t}) - \text{Min}_{a\in A}(TGR_{i,t})$						0.046
						(0.067)
$FVOL_{i,t-1}$		1.018***	1.019***	0.784***	0.761***	0.742***
		(0.010)	(0.010)	(0.019)	(0.021)	(0.030)
$\log(\text{Market Capitalization}_{i,t})$					-0.009***	-0.012***
					(0.002)	(0.003)
$\text{Cumulative Return}_{i,t-3,t-1}$					-0.010*	-0.006
					(0.006)	(0.008)
$\text{Cumulative Return}_{i,t-12,t-4}$					0.001	-0.001
					(0.003)	(0.004)
$\text{Return Volatility}_{i,t-3,t-1}$					0.000	0.000
					(0.000)	(0.000)
$\text{Months Between Forecasts}_{i,t0,T}$					-0.002***	-0.002**
					(0.001)	(0.001)
Year-Month FE			✓	✓	✓	✓
Firm FE				✓	✓	✓
Observations	16,186	15,836	15,836	14,431	12,351	6,978
F Statistic	68.89	5542.75	5510.84	833.66	210.69	104.30
R^2	0.01	0.80	0.80	0.88	0.88	0.89

Comment 4: Real outcomes of discount rate disagreement (cont.)

- Based on Table 9 + previous evidence I thought:
  WACC dispersion $\leftarrow$ estimation of β $\leftarrow$ random choices of horizons (analysts' idiosyncratic choices)

- Should not be able to be generalized to a large pool of investors. (i.e., we do not expect investors make same set of idiosyncratic choices for the same stock).

- But actually my intepretation was not correct.

Comment 4: Real outcomes of discount rate disagreement (cont.)

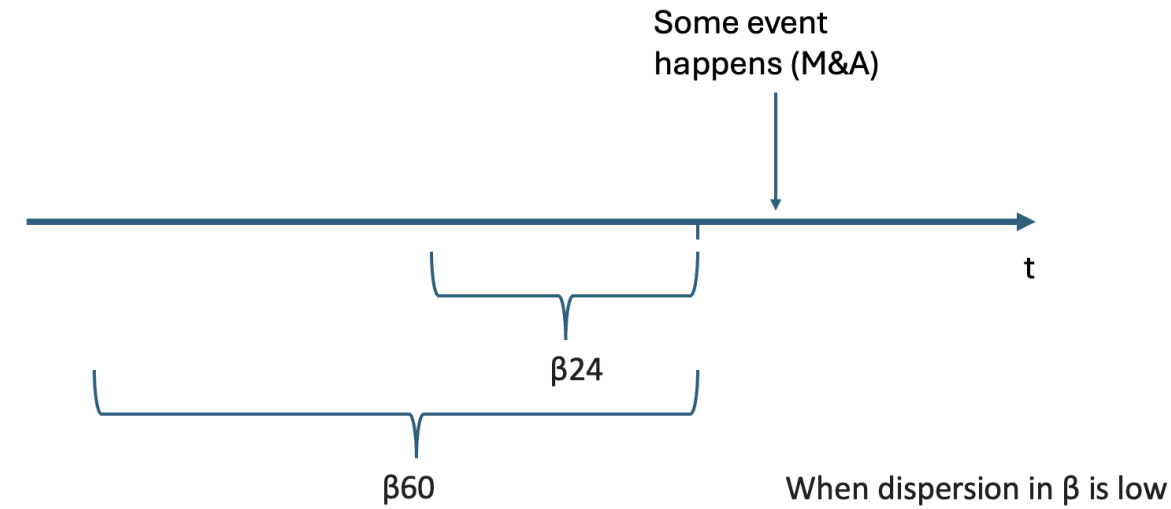
Table IA1: Econometrician's dispersion in estimated β

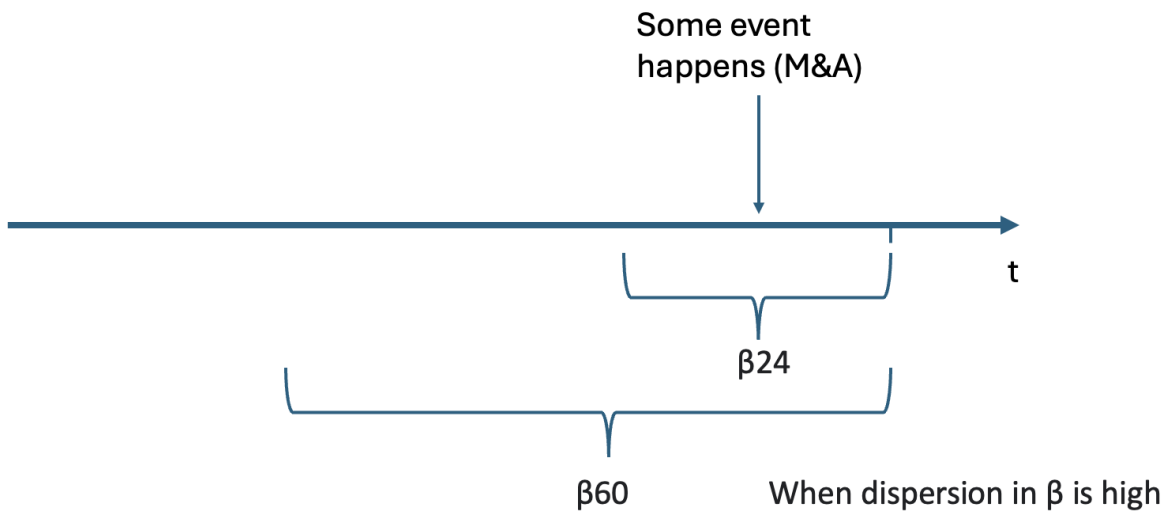
Dependent variable =	$\text{FVOL}_{i,t}$				
	(1)	(2)	(3)	(4)	(5)
$\text{Max}(CAPM\ Beta_{E,i,t}) - \text{Min}(CAPM\ Beta_{E,i,t})$	0.041***	0.005***	0.006***	0.004***	0.004***
	(0.002)	(0.000)	(0.000)	(0.001)	(0.001)
$\text{FVOL}_{i,t-1}$		0.891***	0.889***	0.640***	0.622***
		(0.003)	(0.003)	(0.008)	(0.010)
$\log(\text{Market Capitalization}_{i,t})$					-0.005***
					(0.001)
$\text{Cumulative Return}_{i,t-3,t-1}$					-0.007***
					(0.001)
$\text{Cumulative Return}_{i,t-12,t-4}$					-0.001
					(0.001)
$\text{Return Volatility}_{i,t-3,t-1}$					-0.000***
					(0.000)
Year-Month FE			✓	✓	✓
Firm FE				✓	✓
Observations	468,354	454,478	454,478	454,432	304,138
F Statistic	293.69	52936.35	53347.07	3300.70	834.22
R^2	0.01	0.80	0.80	0.83	0.83

Actually the effect is generalizable: Obtain similar effect using econometrician's dispersion in estimated β.

Comment 4: Real outcomes of discount rate disagreement (cont.)

- It's really capturing some big events of firms, which changes β.





Comment 4: Real outcomes of discount rate disagreement (cont.)

- What drives the effect is some fundamental change of firms (which changes β), observable or unobservable. This could hold even without within-firm variation on, e.g., analysts' random choices of horizons.

- Still within the framework, but good to clarify or provide more evidence on where the variation comes from - for what stocks and when horizon difference really matters?

Comment 5: Is there an "optimal" benchmark?

- More a thought than a comment.
- What should we tell students how to estimate β?
- Do we want to give some guidance on the horizon and eliminate the estimation uncertainty?
- What is the objective function of analysts? Estimating more precisely the "intrinsic value"? Empirically challenging to measure.
- If there is a good benchmark (e.g., price in one year), can we design the "optimal" horizon to estimate β?
- This may create a complicated general equilibrium effect - if all analysts switch to the "optimal" horizon, then the price will evolve differently because of the information analysts deliver...

Minor comments

- Why the dispersion of βs of different horizons are pro-cyclical?
- What are the proportion of analysts simply adopt βs from Bloomberg/Refinitiv (2-year weekly/5-year monthly)? Can you observe that? Not sure analysts fully are aware the methodological differences behind them.
- If possible, would be nice to include a few examples of snapshots of analyst reports in the paper.
- The paper didn't talk much about cash flow forecasts. Is dispersion of cashflow forecasts correlated with discount rate dispersion? Would also be good to control for EPS forecasts dispersion in the real outcome analysis.

Conclusion

- Very interesting paper and promising line of research using the data.
- Recommend everyone to read it.
- Best of luck with the paper!